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Preface

This report presents the bulk of current and historical information concerning the management of commercial and subsistence fisheries in the Yukon area. Data from many special research projects are included in this report; complete documentation of these projects and results will be presented in separate reports.

Data presented in this report supercedes information found in previous management reports. An attempt has been made to correct errors in previous reports and previously unrecorded data have been incorporated into this report which are so indicated by the appropriate footnotes.

The report is organized into the following major sections:

1. Area Introduction. This section presents a detailed description of the area, inhabitants, fishery resources, fisheries and management practices.

2. Area Report, 1981. This section presents a comprehensive report of the current year and makes comparisons with previous years.

In order to facilitate use of this report, tabular data has been separated into current year tables and appendix tables where annual comparisons are made. Text for each major section is followed by current year tables and then by appendix tables.

The following is an explanation of how effort and catch per unit effort data, presented throughout this report, have been derived. Boat (or fisherman) hours have been computed, arbitrarily assuming that if a fishing boat delivers in any fishing period, it is fished the entire period for as many hours as were open to commercial fishing.

Catch per fisherman (or boat) hour is obtained by dividing the total fisherman hours into the catch for the corresponding period of time.

Total fishermen (or boats) is the total number of fishermen making deliveries, irrespective of how many deliveries were made or days fished during a particular "season". There are a number of fishermen who deliver only once or twice during the entire season.

"Total days fished" is the total number of hours open for commercial fishing during the season divided by 24.

AREA INTRODUCTION

Description of Area

The Yukon management area includes all waters of the Yukon River and its tributary streams in Alaska and all coastal waters from Canal Point light near Cape Stephens southward to Naskonat Peninsula (Figure 7). The Yukon River is the largest river in Alaska, draining approximately 35 percent of the state, and is the fifth largest drainage in North America (Figure 1). The river originates in British Columbia, Canada, within 30 miles of the Gulf of Alaska and flows over 2,300 miles to its mouth on the Bering Sea draining an area of approximately 330,000 square miles. With the possible exception of a few fish taken at the mouth or adjacent coastal villages, only salmon of Yukon River origin are harvested in this area.

Fishery Resources

All five species of Pacific salmon are indigenous to the Yukon River drainage (Figure 1) with chum salmon being the most abundant. It is estimated that king, coho, pink and sockeye (red) salmon follow in order of abundance.

Chum salmon are found throughout the Yukon River drainage. Summer and fall chum are the two distinct major runs of chum salmon entering the Yukon River. Summer chums are chiefly characterized by: earlier run timing (early June-mid July), rapid maturation in freshwater, smaller size (average 6-7 pounds), and larger population. Summer chums spawn primarily in run-off streams in the lower 500 miles of the drainage (Figures 2 and 3). Fall chums are mainly distinguished by: later run timing (mid July-early September), robust body shape and bright silvery appearance, larger size (average 7-8 pounds) and smaller population. Fall chums spawn in the upper portion of the drainage in streams which are spring fed, usually remaining ice-free during the winter. Major fall chum spawning areas include the Tanana, Chandalar and Porcupine River systems and also various streams in the Yukon Territory (Figures 4, 5 and 6).

King salmon of the Yukon River are the largest species ranging from 2-90 pounds and averaging 20-25 pounds (sampled from commercial fishery, large mesh gill nets). Spawning populations of kings have been documented in the Archuelinguk River located approximately 80 miles from the mouth of the Yukon River and as far upstream as the headwaters of the drainage in the Yukon Territory of Canada, nearly 2,000 miles from the mouth (Figures 2-6). Kings enter the mouth of the Yukon River soon after breakup during late May-early June and continuing through mid-July.

Coho salmon enter the Yukon River during late July through mid-September, average about seven pounds in weight and spawn discontinuously throughout the drainage. The major coho spawning concentrations documented to date occur in the tributaries of the upper Tanana River drainage (Figure 4).

Pink salmon enter the lower river during late June-mid July, average approximately 3 pounds in weight and essentially spawn in the lower portion of the drainage (downstream of the village of Grayling) (Figure 2). Pinks have been caught in the main stem Yukon River upstream as far as Galena (river mile 530).

Sockeye salmon are uncommon in the Yukon River and only a few individuals are caught each year. Sockeyes have been reported taken in the main Yukon River upstream to Ruby (mile 581).

Herring are found in Hooper Bay, Kokechik Bay and Scammon Bay (Figure 15). Spawning populations occur only in the Cape Romanzof area (Kokechik and Scammon Bays) where suitable spawning habitat is available (rocky beaches, Fucus seaweed). Spawning usually occurs from mid-May through mid-June.

Other species common to the freshwater and for coastal marine habitats include: sheefish, several species of whitefish, Arctic char, pike, lake trout, grayling, burbot, suckers, sculpins, blackfish, sticklebacks, lampreys, smelt; capelin, and several species of cods, flatfishes, crabs, shrimps and mollusks. Table 1 presents a list of fishes found in the Yukon area.

Water Quality

Water quality and spawning habitats in the area have been largely preserved in their original condition. Pollution, logging, dam construction and mining activities, except in a few locations, have been to date minimal or nonexistent. It remains to be seen what impact recent oil development activity will have on water quality and fishery resources in the area.

District Boundaries

Commercial salmon fishing is allowed along 1,200 miles of the mainstem Yukon River and the lower 200 miles of the Tanana River. The present district boundaries were established in 1961 and redefined in 1962, 1974 and 1978. The commercial fishing area is divided into six districts for management and regulatory purposes (Figure 7). The Lower Yukon area includes the coastal waters of the area and that portion of the drainage from the mouth to Old Paradise Village, river mile 301 (lower three districts). The Upper Yukon area is that portion of the drainage upstream of Old Paradise Village to the U.S./Canada Border including the Tanana River (upper three districts). The districts are further subdivided into subdistricts and statistical areas for management purposes. Figures 8, 9, and 10 present the lower three district statistical area charts. Figures 11, 12, 13, and 14 present the upper three district statistical area charts. Yukon River mileages are presented in Table 2.

Commercial Salmon Fishery History and Description

Historical Catch Trends and Status of Stocks

The first recorded commercial salmon harvest in the drainage dates back to 1903 when 70,000 pounds of king and chum salmon were taken in the Yukon Territory, Canada. A small commercial fishery for these species still exists in Yukon Territory, primarily in Dawson.

The first recorded commercial salmon harvest in Alaska was in 1918 when Carlisle Packing Company operated a floating cannery at Andreafsky (now St. Mary's). Relatively large catches of king, coho and chum salmon were made during the first four years of this fishery (Appendix Table 1). Since restrictions were placed only on commercial fishing inside the river's mouth,

a majority of the catch was made in "outside" waters. Because of the existence of a large upriver subsistence fishery, the early commercial fishery met opposition and was closed completely during 1925-1931. Commercial fishing for king salmon was resumed at a much lower level in 1932, and this species has been taken commercially each year since then. Only king salmon were harvested on a sustained basis prior to statehood (1959). During the period 1918-1959 king salmon commercial catches averaged approximately 30,000 fish annually. Since 1921, commercial catches of chum and/or coho salmon have been made during 1952-54, 1956 and since 1961.

Since the 1950's commercial salmon fishing has been permitted only upstream from the mouth of the Yukon River and in the vicinity of Black River. During the 1954-1960 period, a 65,000 king salmon quota was in effect for the river. Of this total, not more than 50,000 could be taken below the mouth of the Anuk River, 10,000 in the area between the mouths of the Anuk and Anvik Rivers and 5,000 upstream from the Anvik River. During these years, fishing was allowed for five and one-half days a week until specific quotas were obtained.

Under new regulations established by the Department in 1961, the annual king salmon harvest for the entire area averaged 104,371 for the period 1961-1970. This average compared to 63,023 for the previous period 1952-1960, represents an increase of 66 percent (Appendix Table 1). During the period 1971-1976 catches declined, averaging 88,169 fish annually because of below average runs and regulatory restrictions.

Since 1977, due to above-average runs, catches have increased, averaging 127,133 fish annually (1977-1981). The greatest catch ever made in the area was 157,607 king salmon in 1981.

In 1975 the king salmon commercial catch of 63,740 was the smallest since 1960. During the same period (since 1960) commercial fishing effort increased substantially. Restrictions placed on the commercial fishery during the 1970's have generally resulted in improved escapements compared to the 1963-69 period. Above average escapements occurred in 1971 and 1977-81.

In recent years the decline of the Yukon River king salmon is believed to be partially attributed to the Japanese high seas mothership fishery. The high seas king salmon catches, taken incidentally to more numerous other species, have averaged 233,000 fish annually during the period 1960-1977. A peak catch of 554,000 kings were taken in this fishery in 1969 (Appendix Table 30). In some years the Japanese catch has exceeded the total western Alaskan catch (subsistence and commercial). Most of the high seas king salmon catch is composed of immature four year old fish which normally return as six-year-olds, two years later. Based on tagging and scale analysis studies it is estimated that in excess of 80% of the Japanese king salmon catches are of western Alaskan origin (Yukon, Kuskokwim, and Bristol Bay stocks).

The I.N.P.F.C. Treaty was renegotiated in 1977 to afford increased protection for western Alaska salmon stocks. Japanese mothership king salmon catches were 105,000 and 126,000 in 1978 and 1979, respectively. However, in 1980 a record 704,000 kings were taken in the mothership fishery (Appendix Table 30). The large 1980 catch, although representing an economic loss to western Alaskan fishermen, probably is reflective of abundance due to high survival rates. Above average returns are expected of 6-year-old fish in 1982.

Also, western Alaskan kings are taken incidentally to the foreign groundfish trawl fishery (1977-80 average catch of 74,000 fish). In addition the Japanese landbased drift gillnet fishery harvests 160,000 kings annually (1971-80 average) but the degree of western Alaskan interceptions is unknown.

Since statehood the Yukon River commercial chum salmon fishery has steadily developed especially during the 1970's. During the period 1961-1965 commercial catches averaged 31,850 while during the same period subsistence chum catches averaged 400,874. As the subsistence commercial fishery declined and regulations were relaxed, coupled with the expansion of the fall chum fishery, the commercial catches averaged 145,295 during 1966-1970. The development of the summer chum fishery and expansion of the upriver commercial fishery resulted in commercial chum catches averaging 832,966 during the period 1971-1980. The largest chum salmon catch in the history of the Yukon River commercial fishery occurred in 1981 when 1,677,871 fish were taken (Appendix Tables 1 and 2).

Prior to the mid-1960's summer chum salmon were used primarily for subsistence, mostly for sled dog food. As the snow machine replaced the dog sled, subsistence fishing for summer chums declined. Beginning in 1967, commercial fishing restrictions regarding summer chums have been liberalized as the dependence for subsistence declined. The Yukon River summer chum salmon commercial harvest has increased sharply as a result of regulation changes (e.g. mesh size specifications and earlier openings of the fishing season), increased fishing effort (including expansion of the upper Yukon fishery), the availability of processing and tendering facilities, higher prices paid to fishermen, the development of Japanese markets, and the occurrence of very large runs in recent years. In 1967 only 11,000 summer chums were taken commercially while in 1981 a record 1,191,812 fish were harvested. The majority of the harvest takes place in districts 1,2 and 4.

The major summer chum salmon spawning tributaries include the Andreafsky and Anvik Rivers and several others upstream to and including those of the Koyukuk River drainage. Department tag and recovery population estimates indicated total runs of 3.2 and 1.6 million fish in 1970 and 1971, respectively. In 1975 the total Yukon River run was estimated in excess of 5 million fish based on commercial and subsistence catch documentation and aerial survey estimates. In the Anvik River an escapement of over 1 million summer chums was estimated in 1975 and 1981. Overall, Yukon River summer chum escapements have been good in recent years; however, escapements in that portion of the drainage upstream of the Koyukuk River mouth have been variable.

Chum salmon (both summer and fall run) bound for the Yukon River are probably being intercepted by the Japanese mothership fishery in the Bering Sea. This fishery annually harvests 2-4 million fish of which significant numbers are believed to be of western Alaska (including Yukon River) origin, although tagging effort in the areas heavily fished by the Japanese has been limited. Also Yukon River chums, in addition to other western Alaska stocks, are intercepted by the U.S. South Unimak commercial fishery as demonstrated by tagging studies. Annual (1970-1981) catches of this interception fishery average 272,000 chums.

The commercial fishery for fall chum salmon in the Yukon River began in the early 1960's; however, the fishery has only recently expanded (since 1969).

During the 1961-1968 period, catches averaged 41,378 annually and since 1969 (1969-1980) catches have averaged 230,938. The recent development of the fall chum fishery is also reflected by corresponding increases in fishing effort and processing facilities. Because of their good quality (bright, silvery appearance, large size, robust body shape and high oil content), which is related to their destination to spawning areas in the upper portion of the drainage, fall chums are in great demand and are harvested in all fishing districts. The majority of the fall chum salmon commercial catches are taken presently in the lower three districts (Appendix Table 13). The largest fall chum catch occurred in 1981 when 486,059 fish were harvested.

Fall chums are of less importance for subsistence than summer chums throughout the Yukon River drainage except in that portion of the drainage upstream of the mouth of the Koyukuk River where it is estimated that fall chums comprise 60-75% of the total subsistence harvest.

There is evidence that the early run (late July-early August) of fall chums are bound for the Porcupine River system and Yukon Territory streams. The late run of fall chums (mid-August-early September) are believed destined primarily for the Tanana River.

Run magnitudes, based on comparative catch data and limited escapement data, have fluctuated sharply depending on the brood year strength. Very large runs were experienced in 1970, 1971, 1975, 1979 and 1981 while small runs occurred in 1973, 1976, 1978 and 1980. Aerial survey assessments of escapements began in 1972. Tanana River drainage escapements in general appear more stable and experience less fluctuation than the Porcupine River system. For example, escapements in the Fishing Branch River (Porcupine River drainage) have ranged from 353,000 (1975) to 13,000 (1976).

The Department will maintain an overall guideline harvest range of 145,500-320,500 (233,000 midpoint) of fall chum salmon until future returns from current levels of harvest can be evaluated. The Board of Fisheries at its December, 1978 meeting replaced the previous quota system with the more flexible guideline harvest range concept. Beginning with the 1974 season the Alaska Board of Fish and Game established quotas of 200,000 chum salmon for the lower three districts (combined) and 50,000 combined chum and coho salmon for the upper three districts.

<u>Coho salmon</u> runs of the Yukon River are of lesser magnitude than fall chum salmon and are taken incidental to the commercial fishery for fall chums. Coho catches have averaged 6,829, 14,166, and 18,469 fish during the periods 1961-1965, 1966-1970, and 1971-1980, respectively.

Commercial salmon catches by district and statistical area since 1960 are presented in Appendix Tables 2, 5-6, and 11-13.

The relatively recent development and expansion of the commercial salmon fishery has enabled many area residents to obtain a cash income. In recent years (1976-1980) fishermen and processing plant employees have received over five million dollars annually (Appendix Table 18). Other forms of employment is often sporadic or nonexistent in this area. The vast majority of all commercial fishermen are Eskimo and Indian residents of the Yukon River drainage.

Most fishermen operate small outboard powered skiffs of 16 to 20 feet in length and do not use gill net rollers, power reels, etc. of any type. In the Yukon area set gill nets, drift gill nets and fishwheels are legal forms of commercial salmon fishing gear.

A list of current Yukon area fishing regulations are presented in Attachment 3.

The majority of the salmon catch is presently processed as a fresh/frozen product in contrast to earlier years when canning and salting were of greater importance (Appendix Table 17). Salmon are processed at shore-based or floating operations and also transported via aircraft outside the area for processing. In recent years, 1976-80, the wholesale value of the pack has averaged 13.5 million dollars.

Lower Yukon Area

The lower Yukon area consists of three districts: District 1 (334-10) (mouth to Anuk River including Black River), District 2 (334-20) (Anuk River to Toklik, District 3 (334-30) (Toklik to Old Paradise Village)(Figures 8-10).

Since the onset of the commercial salmon fishing in 1918, the majority of the Yukon River harvest has occurred in the lower river area (primarily districts 1 and 2) where fishing and processing effort is concentrated and fish quality is higher. Although the summer chum fishery has developed in recent years, the lower fishery during June and early July is still primarily managed for the intensively fished king salmon run.

Beginning in 1961, when king salmon catch quotas were eliminated for districts 1 and 2, these fisheries have been regulated by scheduled weekly fishing periods. The "king salmon season" (no mesh size restrictions) in these districts opens by emergency order between June 5-15 and is closed by emergency order during late June or early July depending on timing and magnitude of the runs. Fishing time during the king salmon season was allowed for four days a week during 1961-1967, but was reduced to 3-1/2 days a week beginning in 1968, to 3 days a week in 1974 and to 2-1/2 days a week in 1977. This was done to provide for adequate king salmon escapements in the face of increasing fishing effort and efficiency.

Commercial fishing effort increased sharply since 1961. License registration for set gill nets more than doubled while drift gill net gear tripled during the period 1961-1975. Set gill nets are most commonly used, especially near the river mouth, but the use of drift gill nets has increased. Drift gill nets are legal forms of gear in the lower three districts only. The best measurement of effort is the number of actual fishing vessels operated each year since fishermen commonly used more than one type of gear during the season. A total of 696 fishing vessels operated in the lower Yukon area in 1981 (Appendix Table 4). With the advent of the Limited Entry program in 1976, fishing effort has apparently stabilized. In 1981 a total of 689 CFEC gill net permits were issued (Appendix Table 3).

Since 1970 districts 1 and 2 commercial king salmon catches have averaged 84,268 fish annually (1971-1980)(Appendix Table 2). In 1981 the Board of Fisheries established a 60,000-120,000 king salmon guideline harvest range for

districts 1 and 2 combined.

In District 3 the commercial salmon fishing season also opens by emergency order between June 5-15 and fishing is allowed three days a week until the 1,800-2,200 king salmon guideline harvest range is taken (Appendix Table 10).

Excluding the 1920's, sale of other species of salmon captured during the king salmon season in the area of the present lower two districts has been allowed only since 1967. The incidental catch of summer chum salmon was limited during this season as fishermen used gill nets of stretched mesh measure of eight inches or greater. However, beginning in 1970, each fisherman could substitute up to 50 fathoms of gill net of any mesh size in districts 1 and 2. In 1973 all mesh size restrictions were lifted during the king salmon season (from June 1 through early July) in order to allow greater opportunity to use small mesh nets which are selective toward the more abundant chums. However, the majority of fishermen continue to fish the larger mesh king salmon nets during the king salmon season. Comparative lower Yukon king and summer chum salmon catches by mesh size are presented in Appendix Table 7.

Since 1961 the commercial fishing season in the lower Yukon districts has been reopened following the closure of the king salmon season. This second season is referred to as the "fall season" and primarily chum and coho salmon are taken. Prior to 1973 the mid-season closure during most of July and often late June was initially for the purpose of insuring an adequate supply of summer chum salmon for upriver subsistence fishermen. This closure also provided protection for the late stages of the king salmon run.

Subsistence fishing for <u>summer chums</u> has declined in recent years and the Department has liberalized regulations to provide for an earlier reopening in July to harvest the surplus. Concurrent with an early reopening of the season, a regulation was promulgated in 1973 specifying gill nets of only 6-inch mesh or less may be fished after a specified date in early July in districts 1 and 2. Use of small mesh gill nets in early July allowed a greater harvest of summer chums and also minimized the king salmon catch (Appendix Table 7). Beginning with the 1976 fishing season a regulation was promulgated which established a flexible range of dates from June 27 to July 5 in districts 1 and 2 (and July 5-15 in District 3) after which only gill nets of 6-inch or less mesh gill nets may be used.

In recent years (1973-80) the lower Yukon area commercial summer chum salmon catch has averaged 515,738 fish annually (Appendix Table 13).

<u>Fall chum</u> salmon have been harvested in the lower Yukon area beginning in 1961. Since expansion of the fishery in 1969 lower Yukon area fall chum catches have averaged 189,254 fish annually (1969-80)(Appendix Table 13). Beginning in 1974 a 200,000 chum salmon quota system (after mid-July) was implemented for the combined lower three districts. Also, fishing time was reduced from four to three days a week in districts 1 and 2. These actions were necessary to stabilize the catch in view of increased fishing effort and to provide for a harvest in the newly developed upper Yukon area fishery. In 1979 fishing time was reduced further to two days a week and the 200,000 quota was replaced by a flexible guideline harvest range of 120,000-220,000 chum salmon.

The harvest of coho salmon in the lower Yukon area is dependent upon the duration of the fishing season (usually related to when the chum salmon guideline harvest range is taken). Cohos peak during mid to late August. Lower Yukon coho salmon catches since 1971 have averaged 17,224 annually (1971-80)(Appendix Table 2).

The bulk of the lower Yukon River salmon catch is destined for Japanese markets as a fresh-frozen product. Freezer ships and shore-based operations that process fresh-frozen salmon are located in the vicinity of Emmonak. Some fresh salmon is transported by aircraft from St. Mary's, Marshall and Aniak to Anchorage for further processing. Hard salting operations are located at Black River and Mountain Village. A floating cannery is located near Emmonak and a shore-based cannery is operated at Mountain Village.

Upper Yukon Area

For regulatory and administrative purposes, the upper Yukon area is divided into three districts: District 4 (334-40) extends from Old Paradise Village upstream approximately 360 miles to the mouth of Illinois Creek near Kallands; District 5 (334-50), from the mouth of Illinois Creek upstream to the U.S./Canadian border (approximately 550 miles), and District 6 (334-60), the Tanana River drainage, of which the lower 225 miles is open to commercial fishing (Figures 11-14).

Prior to 1974 the upper Yukon area (above the confluence of the Koyukuk River) was designated as one district (4). By regulation, commercial fishing was allowed 7 days per week until the quotas of 2,000 king salmon and 2,000 chum and coho salmon (combined) were taken. These quotas were established for the purpose of allowing a very limited commercial utilization which had occurred for many years.

In recent years, however, the upriver commercial fishery has expanded. Fishing effort nearly doubled from 1972 to 1973, and processors developed outside markets, due in part to the steadily increasing price of salmon the market was experiencing. In recognition of the developing upriver commercial fishery and the desire of fishermen in the upper portion of the drainage for increased participation, the Board of Fish and Game adopted several major regulation changes prior to the 1974 fishing season. These new regulations provided for substantial increases in the upriver catches, reduced gear conflicts and, at the same time, made provisions for allowing escapement needs to be met:

(1) District 4 was reduced in size and redefined as that portion of the Yukon River drainage from the mouth of the Bonasila River to the mouth of Illinois Creek at Kallands.

(2) Two new districts were added: District 5 and District 6.

(3) Salmon catch quotas were established for the upper Yukon area as follows:

(a) District 4: 1,000 king salmon and after August 15, 10,000 chum and coho salmon combined for the area.

(b) District 5: 3,000 king salmon and after August 15, 25,000 chum and coho salmon combined for the area.

(c) District 6: 1,000 king salmon and after August 15, 15,000 chum and coho salmon combined for the area.

(4) In districts 4, 5 and 6, the weekly commercial fishing period was reduced from 7 to 5 days per week.

Since that time the Board of Fisheries has enacted a number of major regulation changes in the upper Yukon area:

(1) Weekly fishing periods were reduced in all districts (except the upper portion of 5) from 5 to 4 days per week, and split-period fishing schedules were established.

(2) King salmon and fall chum and coho salmon quotas were replaced by flexible guideline harvest level ranges: District 4: 2,250-2,850 king salmon and 10,000-40,000 fall chum and coho salmon; District 5: 2,700-3,300 king salmon and 10,000-40,000 fall chum and coho salmon; and District 6: 600-800 king salmon and 5,500-20,500 fall chum and coho salmon.

(3) District 4 boundaries were redescribed and new subdistricts created to allow for stock-specific management of fall chum and coho salmon.

(4) New subdistricts within District 5 were created to achieve better balanced harvests and escapements.

Because of the common origin of salmon stocks which are harvested throughout the length of the Yukon River, the commercial and subsistence fisheries in the middle and upper river districts cannot be considered separate or distinct from those in the lower portion of the drainage. They do, however, differ in several important respects.

For reasons of relative abundance, flesh quality, and the existing regulation structure, the second, or fall run, of chum salmon is the target species of the commercial fishery in districts 5 and 6.

The summer run of chum salmon is of paramount importance in District 4 and comprises approximately 65% of the total upriver commercial harvest (Appendix Table 13). Unlike the lower river fisheries, relatively few summer chum salmon are taken commercially in districts 5 and 6. Because of their low abundance, advanced state of sexual maturity, and consequent poor quality, the flesh is difficult to market; however, roe quality of summer chums is judged to be excellent.

Tradition, local fishing conditions, efficiency, and relative ease of operation combine to make fishwheels the primary type of gear for harvesting chum salmon and account for roughly 95% of the commercial harvest of that species in the upper Yukon area. In contrast, the lower river fishery focuses primarily on king salmon, with only recent emphasis on expanding the commercial fishery for other species of salmon. Local river conditions and

regulations dictate the exclusive use of set and drift gillnets in the lower Yukon area.

The last major difference between the two fisheries is their relative size, both in numbers of fishermen and catch. Because of the developing nature of the commercial fishery in districts 4, 5 and 6 and the absence of major summer chum salmon-producing streams in the upper portion of the drainage, the commercial salmon harvest has averaged approximately 25% of the total area harvest in recent years. During the recent 5-year period, the upper Yukon districts have had an average of 181 participating fishermen or approximately 21% of the Yukon area total (Appendix Table 4). Final implementation of the Limited Entry Program is expected to stabilize year-to-year fishing effort.

King salmon are of lesser importance to the commercial fisheries in the three upper districts; the total harvest guideline range allocated by the Board of Fisheries is 5,550 to 6,950 kings (Appendix Table 10). In most years the guideline harvest level is not met in District 4, as most fishermen choose to retain king salmon for subsistence use. In the Tanana River district (6), the upper end of the king salmon guideline harvest range is normally taken by late July, and in most years the season remains closed until early to mid-September. A relatively intense fishery for king salmon has developed in the lower portion of District 5, and considerable (gillnet) effort occurs during July.

The majority of commercially caught king salmon are transported to Fairbanks and other population centers for primary processing and sold to wholesalers outside the state as a fresh-frozen product. The balance of the king salmon catch is sold to local supermarkets and restaurants. Most fall chum salmon harvested in these districts are tendered by boat or single-engine aircraft from collection points along the river and are then trucked or flown to processing plants in Manley, Galena, or Nenana for processing. A portion of the fall chum harvest is marketed as a fresh-frozen product, and small quantities of king and fall chum salmon are smoke-cured and sold as "strips", a local specialty product. In addition, limited quantities of chum and coho salmon taken commercially are dried and sold as dog food.

The upper Yukon commercial fishery developed at a time (mid- to late 1970's) when salmon runs on the west coast were generally depressed. For this reason, processors were able to overcome quality and transportation difficulties and find ready markets for their product. In recent years, however, salmon runs throughout Alaska have rebounded, and processors are now having to compete with higher quality reds and chums. As a result, prices paid for upriver chums have not kept pace with inflation, and in some areas (particularly subdistrict 4-A) markets have existed only for roe or in some cases higher quality male chums in recent years.

Subsistence Utilization

There are approximately 10,000-15,000 Eskimo and Indian people in the area, the majority of whom reside in excess of 45 small villages scattered along the coast and major river systems. Nearly all of these native people are dependent to varying degrees on fish and game resources for their livelihood.

Subsistence fishermen operate gill nets largely in the main rivers and, to a

lesser extent, in the coastal marine waters, capturing mainly salmon, whitefish and sheefish. Fishwheels take considerable numbers of salmon in the upper Yukon and Tanana rivers. Beach seines are occasionally used near spawning grounds to catch schooling or spawning salmon or other species of fish. Traps and fish weirs of various designs are also used, mainly in the fall and winter months, to capture whitefish, blackfish and burbot. Sheefish, pike, char and "tomcod" (saffron cod) are frequently taken through the ice by hand lines. Dip nets are used in late May-early June to take smelt in the delta area and in late October-early November to take lamprey in the main Yukon River downstream of Grayling.

There is usually little intentional wastage of the fish taken for subsistence purposes. The major portion is frozen, sun dried or smoked for later consumption while the head and viscera may be fed to sled dogs.

Comprehensive annual surveys of the Yukon River subsistence salmon fishery were initiated by the Department in 1961. Data obtained cannot be easily compared with that of earlier years which was often incomplete or lacking for many years. Methods and coverage of these earlier surveys were not documented and their accuracy cannot be determined. However, there are records indicating that in excess of one million salmon (mainly chums) were taken for subsistence in some years during the early 1900's and even as late as 1940 (Appendix Table 1).

The Department's subsistence fishery surveys (personal interview, catch calendar, and/or catch questionnaires) obtain catch, effort and other associated data from villages and fish camps along the main river in Alaska, including portions of the Tanana River and Chandalar River. Catch data from the Canadian portion of the drainage has been supplied by personnel of Environment Canada - Fisheries Service (Whitehorse office) since 1962. In recent years, the Department has conducted surveys of Koyukuk River villages.

About 1930 the airplane began replacing the sled dog as mail and supply carrier, starting the gradual decline of the subsistence salmon fishery. This decline has been accelerated in the past years as increased welfare payments and employment opportunities, including commercial fishing activities, have become available to the native people. The reduction in subsistence fishing is not necessarily related to fish abundance, but mainly reflects decreases in effort and dependence due to a changing way of life.

To illustrate changes in effort, there were 393 fishwheels operated on the Yukon River in 1918. Fishwheels are very effective if fished properly. A single wheel is capable of taking from 2,000 to 5,000 chum salmon annually. The number of fishwheels recorded during the 1970 survey was an all-time low of 55, a 67% decrease since 1961 (Appendix Table 22). However, because of the expansion of the upper Yukon commercial fishery, beginning in 1973, the amount of fishwheel gear has sharply increased (207 units in 1981).

Another very important factor tending to affect subsistence fishing effort during recent years is the increasing use of snow vehicles which may be replacing sled dogs at a faster rate than did the airplane. Since considerable numbers of salmon and other fish are fed to sled dogs, fewer fish will be required for subsistence purposes as the canine population declines. In 1961 each fishing family kept an average of 7.7 sled dogs while in 1972

this figure was down to 3.8 sled dogs. However, due to the renewed interest in sled dog racing, the number of dogs per family increased to 6.8 in 1981. The number of snowmachines owned by fishing families was documented beginning with the 1967 season, when the average number of snowmachines per family was 0.4. Since then the number of snowmachines has steadily increased and in recent years the average number of snowmachines has exceeded 1.1 per family (Appendix Table 21).

Reflecting the above changes in effort and dependency, the subsistence salmon catch has substantially decreased since the early 1960's. Comparing catches from villages surveyed each year ("equivalent catches") the chum salmon harvest averaged 399,001 during 1961-1965. During the period 1966-1973 catches averaged 191,507, a decrease of 54 percent (Appendix Table 21). However, during 1974-1980, the subsistence chum salmon catches, utilized mainly for dog food, have increased, averaging 340,827. This increase can be attributed to above-average size runs, especially summer chums, subsistence roe sales and increasing numbers of recreational sled dog teams.

Subsistence catches of king salmon, which are utilized mainly for human consumption, have remained relatively constant during the period 1961-1980, generally averaging 20-30,000 per year.

The recent evolution of the upper Yukon and Tanana River subsistence fishery has also differed from that in the lower Yukon. Possibly because of the much older, larger and more sophisticated nature of the commercial fishery in the Yukon Delta to Holy Cross area, a more pronounced dependence on a cash income has developed. In contrast, the recent development and limited nature of the commercial fishery in the upper Yukon and the absence of other employment opportunities may have retarded the transition to a cash-based economy. For these reasons, it is speculated that residents of Yukon River villages in the Interior retain a greater degree of dependence on the salmon resources for subsistence purposes. This is illustrated by the catch data presented in Appendix Tables 22 and 23 which show that the majority of the subsistence king and chum salmon catches are taken in upper Yukon River villages.

It should be noted that the practice of keeping sled dogs is much more common in the upper Yukon than in the Delta area and is considered a major factor affecting fishing effort. It is also likely that the sale of subsistence-caught salmon roe (legal from 1974-1977) increased subsistence chum salmon catches above normal food and domestic use requirements. Subsistence roe sales were not considered a significant factor affecting domestic use harvests in the twelve major villages in the lower Yukon River area.

Subsistence fisheries which target on non-salmon species such as pike, sheefish and whitefish are inadequately documented and their overall significance is not well known. It is suspected, however, that residents of the upper Yukon area are much less dependent on these miscellaneous species than are their downriver counterparts.

Management

The overall objective of the Yukon area research and management programs is to manage the various salmon runs on an optimum sustained yield basis. The

commercial fishery is regulated on the assumption that a harvestable surplus, after providing for spawning and subsistence utilization requirements, is available. Subsistence fishing has been designated by the Alaska State Legislature and the Board of Fisheries as the highest priority use, although, where the dependence upon subsistence fishing has declined, the Department has liberalized regulations to allow development of commercial fisheries.

Management of the salmon runs is further affected by several limiting factors. Since most of the fisheries only became developed or expanded in recent years, there is a lack of adequate comparative catch and return data on which to evaluate the long term effects of increased commercial harvests. In contrast to other management areas in the state where intensive research studies have been conducted for many years, forecasts of actual numbers of salmon returning to the Yukon River system are not available. In addition, due to the character of the fishery (e.g. allocation problems between upriver and downriver fishermen), the salmon runs and of the Yukon River itselt, effective management is restricted. For example, the various fisheries scattered over 1,400 river miles are harvesting mixed stocks usually several weeks and hundreds of miles from their spawning grounds. The Yukon commercial fishery is essentially a "cape fishery" (fishing on mixed stocks) and as a result some tributary populations may be under or overharvested in relation to their actual abundance. In a mixed stock fishery, where it is impossible to manage each stock separately, small spawning populations may be reduced to very low levels or even eliminated.

Due to the turbid water conditions of the main river (and some of its tributaries) and the vast size of the Yukon River drainage, accurate in-season assessment of the escapement immediately past the intensive downriver fishery is very difficult with the present available technology. Also, in-season management of the runs (often mixed species) is hampered by the variable run timing and pattern of entry into the lower river fishery which causes difficulties when attempting to analyze catch data. Also, some fishermen use small mesh gill nets, (5-1/2 - 6 inch) during the king salmon season in order to harvest the larger run of summer chums. As a result, catch data in recent years may not be comparable to earlier years when 8 - 8-1/2 inch stretched mesh gill nets were exclusively used.

Post season estimates of escapements in selected tributaries are being developed by establishing annual index areas. These estimates of spawning stocks, which may be limited by unfavorable stream and survey conditions (e.g. high water, inclement weather), are indicators of the total escapement. Comparable index stream estimates may eventually be of value in developing run forecasts.

It has been a policy of the Alaska Department of Fish and Game to maintain current levels of commercial utilization in order to establish definite trends in subsistence utilization and to obtain more information on the relationship between the salmon catch and return. It should be pointed out that increases in commercial fishing effort and efficiency are expected in some districts and may balance any immediate decline in subsistence utilization with the result that present regulations will be maintained or even made more restrictive. As a result of the above factors the management of the Yukon River salmon runs must take a conservative approach.

The basic regulations that govern the commercial salmon harvest in the area are fishing season openings or closures, scheduled weekly fishing periods, mesh size restrictions and/or guideline harvest ranges. Commercial fishing is normally allowed for a total of from two to four days a week during the open season which depends on the district and species involved. Season guideline harvest levels are utilized for the king and fall chum salmon fisheries throughout the area. Fishing effort usually occurs during the entire run and not just during any particular segment of the run.

During the fishing season, if it becomes apparent that the run is substantially smaller or larger (based on analysis of comparative commercial and/or test fishing data) than needed for escapement and subsistence requirements, then the commercial harvest rates can be adjusted through the use of the emergency order or, less frequently, emergency regulation authority. A list of emergency orders and regulations dealing with changes in fishing time and other regulations issued for the Yukon area in 1981 is presented in Attachment 1. Also presented are 1981 regulation changes promulgated by the Board of Fisheries during its December, 1980 meeting (Attachment 2). A complete list of Yukon area current commercial and subsistence fishing regulations are presented in Attachment 3. A copy of the 1981 Yukon Area Salmon Management Plan is presented in Attachment 5.

New research and management projects have been initiated and other programs are planned, contingent on additional funding, for obtaining the biological information necessary for better management of the salmon runs. For example, in 1980-1981 the following new projects were established:

1) Test Fishing. Expansion of program at Middle and North Mouths of delta area and new fishwheel sites established at Kaltag (summer chums) and Ruby (fall chums and cohos).

2) Side Scan Sonar. Projects initiated to enumerate escapements in East Fork Andreafsky River (kings and summer chums), Melozitna River (summer chums) and Sheenjek River (fall chums).

3) Stock Separation Biology. Catch and escapement scale samples of king salmon were collected throughout the drainage for the purpose of identifying major stocks by scale analysis techniques.

4) Data Processing of Commercial Fishery Statistics. Lower Yukon River commercial catch and effort data analyses from fish tickets, obtained by a new micro-computer at the Emmonak field office, was utilized for in-season management purposes. Also, a separate program under contract to Old Dominion University was initiated to quantify migratory run timing by micro-computer analysis of commercial and test fishing data.

5) St. Mary's Field Office. The Assistant Area Management Biologist position was transferred to St. Mary's, which will facilitate public contact with fishermen groups.

6) Aerial Surveys of Salmon Spawning Streams. Aerial surveys were expanded to develop additional escapement index areas. King salmon spawning surveys were intensified in the Yukon Territory

(Canada).

The Division of Commercial Fisheries of the Alaska Department of Fish and Game is responsible for the management of commercial and subsistence fisheries in the state. The permanent staff assigned full time to the Yukon area includes five positions—two area management biologists, one assistant area management biologist and two research biologists. In addition approximately 25 seasonal employees are hired each season to assist the permanent staff in conducting various management and research studies. Also, the staff aids in the enforcement of regulations in cooperation with the Division of Fish and Wildlife Protection (Department of Public Safety).

Operating funds allocated for the Yukon area salmon management and research program from July 1, 1980 through June 30, 1981 were $391,900. An additional $24,800 were allocated to conduct herring studies at Cape Romanzof.

In addition to the salmon and herring management and research programs, the staff works to obtain information to determine the potential for commercial fisheries on under-utilized species such as whitefish.

A unique problem in the lower river area is the language/communication barrier. Many of the older native people cannot read or speak English. Therefore, the staff often uses translators when conducting the many public meetings that are annually held throughout the area. While it may normally take only half an hour or so to conduct a public meeting or hearing in English, it usually takes two to three times that long when Eskimo translators are used. To assist in education and information, a weekly fishery program and special field announcements are broadcast during the fishing season over radio stations KNOM and KICY in Nome, KYUK in Bethel and various radio stations in the Fairbanks area.

Special Studies

Attachment 4 lists special studies undertaken during 1981 and includes a summary of objectives, procedures and results for each.

Area Season Summary, 1981

In 1981 the king and chum salmon runs were judged above average in magnitude and the coho salmon run was average in magnitude based on comparable catch and escapement data.

In 1981 there were 157,607 kings, 23,702 cohos, and 1,677,871 chums, totaling 1,859,180 salmon taken commercially. This was the largest harvest recorded for king and chum salmon and for all species combined (Appendix Table 1). Tables 4 and 5 present 1981 commercial salmon catches by fishing season and statistical areas. Tables 7 through 12 present period catch data for each district.

In 1981 the commercial king salmon catch greatly exceeded the previous five year average of 113,366 fish. The 1981 data presented in this section does not include commercial catches by Canadian fishermen in the Yukon Territory (Appendix Table 1).

The 1981 commercial chum salmon catch greatly exceeded the previous five year average of 1,073,972 fish. The harvest was composed of 1,677,871 summer and 486,059 fall chums (Appendix Table 13). The summer and fall chum salmon catch was a record exceeding the previous high catch of 1,057,761 summer chums (1980) and 362,480 fall chums (1979).

In 1981 the commercial coho salmon catch exceeded the previous five year average of 19,006 fish.

Subsistence harvests in 1981 in the Yukon area (excluding Yukon Territory) were estimated at 29,690 king and 418,037 chum and coho salmon combined.

In 1981 a total of 761 CFEC gill net permits and 175 fishwheel permits were issued in the area. Table 6 shows the residency of all persons issued CFEC permits for 1981. Appendix Table 3 shows the number of CFEC permits issued since 1976. The actual number of commercial fishing vessels that made at least one salmon delivery during the season are shown in Appendix Table 4.

The majority of the salmon catch was processed primarily as a fresh/frozen product and to a lesser extent by canning and hard salting. Production of salmon roe totaled 507,550 pounds in 1981, including 201,002 pounds of salmon roe purchased from commercial fishermen in the upper Yukon area. Commercial salmon production data is presented in Appendix Table 17. All buyers and processors operating in the Yukon area during 1981 are listed in Table 3.

Yukon area commercial fishermen received a record $10,050,700 for their catches in 1981. In addition a minimum estimate of $1,616,000 in wages was earned by processing plant employees and tenderboat operators. The first wholesale value of the 1981 pack was estimated at $26,267,500 (Appendix Table 18).

Average prices paid to fishermen and salmon weights are presented in Appendix Tables 19 and 20, respectively.

Commercial Fishery, 1981

Lower Yukon Area

The 1981 lower Yukon area (districts 1, 2 and 3) commercial salmon catch totaled a record 1,425,448 fish which was comprised of 148,544 king, 1,255,486 chum (913,726 summer and 341,760 fall chums) and 21,418 coho salmon. The king, summer chum and fall chum salmon catches were the largest ever recorded.

Lower Yukon fishing effort, in terms of the actual number of participating fishing vessels, increased slightly compared to 1980 (Appendix Table 4). In 1981 a total of 689 CFEC gillnet permits were issued for the lower Yukon area (Appendix Table 3).

King Salmon: The timing of the king salmon run entering the mouth of the Yukon River was early for the fourth consecutive year. This was attributed to the relatively mild winter and resulting early breakup of the Bering Sea and lower river ice. The main river was essentially clear of ice by May 18. The first reported king catch, in the lower river, occurred on May 25 from a subsistence net at Sheldon's Point.

A new regulation adopted by the Board of Fisheries in 1981 required that the opening date for commercial fishing be established by emergency order between June 5 and 15. Because a strong early run was indicated by subsistence and test net catches in the lower river, the commercial season opened early, on June 5 in district 1 and June 7 in district 2. This staggered opening was in accordance with the strategy set forth in the Yukon Area Management Plan.

Overall the king salmon run was judged above average in magnitude and it exceeded last year's run which was documented as one of the largest king runs since statehood. This assessment was based on analysis of comparative catch data and subsequent spawning ground surveys throughout the drainage. The 1981 lower Yukon commercial king salmon catch (8-1/2 inch mesh size gillnet samples) was primarily composed of 6 year old fish (78%) from the 1975 parent year and this was reflected in the large average size (approximately 25 pounds).

Comparative district 1 commercial king salmon catch data is presented in Appendix Tables 8 and 9.

The 1981 king harvest in district 1 (99,219) was the largest catch for that district since 1967. The distribution of fish through district 1 was more uniform than in 1980, which was predominantly a "Middle Mouth year". Although the middle mouth (334-15) and north mouth (334-16) areas were productive (19,771 and a record 15,282 respectively), the Black River area (334-16) also did well (6,222), reversing a trend of three years of poor catches. A strong drift net fleet in the Ten Mile - Heads of passes area (334-17) caught a record for that area (22,132) which was also the largest statistical area catch for all of district 1 (Appendix Table 5).

Peak commercial king salmon catches in district 1 were made during the periods June 15-16 (18,304) and June 18-19 (28,519), the largest single 24 hour period catch in the history of the fishery.

In district 2 peak catches occurred during June 10-11 (11,426) and June 14-15 (10,449). The total catch of 45,302 kings in district 2 was the second largest ever recorded.

The King Salmon Season (no mesh size restrictions) ended June 19 in districts 1 and 2, when the upper end of the 60,000-120,000 guideline harvest range was exceeded. An emergency order was issued effective June 21 specifying only gillnets of 6 inch or smaller mesh may be operated. This action allowed increased catch efficiency of summer chums. A large incidental catch of 18,823 kings for districts 1 and 2 was taken. Normally the incidental king catch ranges from 5-8,000 kings in districts 1 and 2.

The commercial fishing season (opened by emergency order on June 15) in district 3 was closed by emergency order on June 16 when 3,220 kings were taken during one 24 hour fishing period, exceeding the 1,800 to 2,200 guideline harvest level. The season reopened on June 22 to fishing with gillnets of 6 inch or smaller mesh and the incidental catch of kings totaled 803 fish.

Summer Chum Salmon: The summer chum salmon run was also early and the first fish was caught on May 28 at Big Eddy in the south mouth area. The magnitude of the summer chum run was considered exceptionally strong based on catch and escapement data. A record 913,726 summer chums were taken in the lower Yukon area in 1981. A total of 165,017 summer chums were taken during the king salmon season in districts 1, 2 and 3. The majority of the catch (748,709) was taken during the fall season with 6 inch or less mesh gillnets. Record summer chum catches were made in all three lower Yukon districts (Appendix Table 13).

Comparative summer chum salmon catch data for districts 1 and 2 are presented in Appendix Tables 13 and 14.

Fall Chum Salmon: The first fall chums were reported caught in the Department's test fishing gill nets in the second week of July. The magnitude of the fall chum run during July was exceptionally strong based on comparative commercial and test fishing data. By July 31 a total of 226,133 fish had been taken in districts 1 and 2 which exceeded the upper end of the 120,000-220,000 chum salmon guideline harvest range. The commercial fishing season was closed by emergency order on August 2 to provide for upriver catch and escapement requirements from the early portion of the fall chum run. An additional 9,882 early run fall chums were taken in district 3 and the season was closed by emergency order on August 6.

During the closure of the commercial salmon fishing season in the lower Yukon area, subsistence and test fishing catches indicated continued high abundance of fall chums. The fishing season was reopened on August 13 for one week and an additional 105,745 fall chums were taken from the late run (presumably Tanana River stocks).

The total fall chum catch for the lower Yukon districts was a record 341,760 fish. The breakdown of the fall chum catch was as follows: district 1, 167,834; district 2, 154,883; and district 3, 19,043. The district 2 catch was the largest ever recorded.

Comparative fall chum salmon catch data for district 1 is shown in Appendix Tables 15 and 16.

Coho Salmon: The first coho salmon caught in the lower Yukon area occurred on June 30 and was captured in the Department's test nets in the Middle Mouth area. However, significant numbers of cohos did appear until mid-August. The harvest of 21,418 cohos in the lower Yukon area was above average and was attributed to the reopening of the fishing season in mid-August when cohos were more abundant. Cohos are of minor importance on the Yukon and the size of the catch is generally dependent on how late the season continues and on the amount of fishing effort exerted for the more abundant fall chums.

A total of 16 processors operated in the lower Yukon area during 1981. Nearly half of those processors shut down their operations following the closure of the king salmon season. One major new processor operated this year: Seafoods of Alaska (Kotlik).

Upper Yukon Area

During 1981 a total of 433,732 salmon (all species combined) was commercially harvested in the three districts within the upper Yukon area. This total was composed of 9,063 kings, 278,086 summer chums, 144,299 fall chums, and 2,284 cohos (Table 4). These figures represent 23% of the total 1981 Yukon area production and exceed the recent 5-year average by 54%.

Upper Yukon fishermen received an estimated $1,297,800 for their catch. This exceeded the value of the 1980 pack by 43%. Approximately $600,000 (46%) of the 1981 total was income received from roe sales. The overall quality of upper Yukon salmon is reflected by the fact that upriver fishermen took approximately 23% of the total catch but received an estimated 13% of the total income. Even though the per-pound prices were down slightly from previous years (Appendix Table 19), the total value of the upper Yukon pack was higher due primarily to the large volume of roe produced.

During 1981, a total of 13 buyers and/or processors operated in the upper Yukon districts. With the recent establishment of four processing plants in the Interior, the majority of the catch is now processed within the area before being transported to outside markets.

King Salmon: Post-season analyses of commercial catch and limited escapement data indicate that the 1981 king salmon run was one of the largest on record. As in past years, the distribution of the king salmon catch between districts was generally a function of district guideline harvest levels rather than abundance or fishing effort.

Timing of the 1981 king salmon run was, for the 4th consecutive year, early. Subsistence catches of kings were reported as early as June 6 in Kaltag and Galena. Commercial deliveries in districts 4, 5, and 6 were first made on June 17, June 18 and June 21, respectively.

As has been the pattern since development of this fishery, relatively few (1,347) kings entered commercial channels in district 4. A majority (64%) of this harvest occurred in the Galena area, and catches peaked in this subdistrict (4-B) during the period ending July 3, when 196 kings were landed

by 19 fishermen.

Fishermen in district 5 harvested a record number of kings during 1981. In-season analysis of catch and effort data indicated an unusually strong run, and for that reason the upper end of the guideline harvest level was exceeded. Action taken by Board of Fisheries in 1980 redefined subdistrict boundaries in this area and established a separate king salmon guideline harvest level for subdistrict 5-D (Figure 8). This action allowed independent management of this subdistrict, which is located at the upstream end of the district. The commercial king salmon season was closed by emergency order on July 1 in subdistricts 5-A, 5-B and 5-C, and on July 24 in subdistrict 5D. Total catch for the district was 6,452 kings. Exceptionally large catches of kings were reported by subsistence fishermen in the Tanana to Rampart area throughout the month of July.

A commercial harvest of 1,264 king salmon was reported to have been taken in district 6, the Tanana River. High water and floating debris hampered fishing effort throughout July and early August. Given these conditions, it was difficult to assess run strength on the basis of comparative catch data; however, the 1981 Tanana River king salmon run is thought to have been above average in magnitude.

Summer Chum Salmon: The 1981 summer chum salmon run was judged to have been excellent. A total of 278,086 summer chums was taken in the upper Yukon districts, which is 7% above the recent 5-year average. As in past years, the majority (88%) of the upper Yukon summer chum run was taken in subdistrict 4-A of district 4. Possibly as a result of the coast-wide abundance of chums in 1981, processors had difficulty finding markets for "dark" chums. In district 4, fishermen were able to market their fish only through the first week in July. During the five fishing periods during which fish were sold, an estimated 50% of fish delivered were rejected by buyers because of quality problems.

In district 4, 243,536 summer chums were taken taken in the commercial fishery. This figure is misleading in that for much of the season fishermen were able to sell roe only. Based on average roe weight-per-female data, roe production was converted to "equivalent catch" figures. The actual number of fish sold totaled 57,678 or only 24% of the district catch.

Carcasses of salmon from which roe was extracted and sold were dried and retained for subsistence use or sold as dog food.

Commercial catches of summer chums in district 5 totaled 85 fish. It should be understood, however, that summer chums are normally not abundant in this area, have little market value, and are normally retained for subsistence purposes. The summer fishery in this area targets on king salmon, and few chums are taken incidentally to this fishery.

Tanana River fishermen harvested a total of 34,465 summer chums during 1981. Commercial catch and escapement data indicated the run to have been above average in magnitude. The run peaked during the period July 20-22, when 22 fishermen delivered 7,303 summer chums, and was approximately 1 week earlier than normal.

Fall Chum Salmon: The 1981 fall chum return, based on catch and available escapement information, appeared generally strong; however, observed escapements to the Toklat River (Tanana River drainage) and Fishing Branch River (Porcupine River drainage, Yukon Territory) were deficient.

Fall chums began appearing the Galena area and the lower portions of district 5 in early August. Lower river commercial catch and test-fishing data indicated a very strong run; however, subsequent catches in subdistrict 4-B of district 4 failed to bear out that projection. Catches remained poor through the period ending August 24, at which time the only processor operating in the area closed down because the volume was insufficient to warrant further operation. The total fall chum harvest in this subdistrict was 10,774 fall chums, and catches peaked during the period ending August 18, when 11 fishermen delivered 3,495 chums. The commercial salmon fishing season was closed by emergency order on September 5 in order to provide for increased subsistence fishing opportunity. Total fall season commercial harvest for subdistrict 4-C was 8,673 chums. That fishery remained open until September 12.

It is speculated that the fall chum salmon harvest level in district 4 was not reflective of overall run size in 1981. These fish apparently migrated farther offshore than is normal and, as a result, were less susceptible to harvest by shorefast gear such as fishwheels and set gillnets.

In contrast to the mediocre performance of the fishery in the Ruby and Galena areas, record catches of fall chums were made in district 5. In compliance with direction provided by the Board of Fisheries, the opening of the second season was delayed until fall chums became well distributed throughout the lower portion of the district, in an attempt to achieve better balanced harvests and escapements.

Peak commercial catches in district 5 were recorded during the period ending August 23, when approximately 27,000 fall chums were delivered by 37 fishermen. Catches for the lower three subdistricts (5-A, 5-B and 5-C) totaled 91,723 chums, and the fall season harvest in subdistrict 5-D was 4,121 chums. The 1981 harvest for the four subdistricts combined was 95,844 and exceeded the previous record catch (1979) for the district by 69%. Season closures were imposed on August 29 for subdistricts 5-A, 5-B and 5-C and on September 8 for the upriver subdistrict, 5-D.

The fall chum and coho salmon fishery in district 6 was opened on September 14, and a total of two 48-hour fishing periods was allowed. The run appeared strong, based on comparative catch data; however, it was late and its duration shorter than in previous years. Catches dropped off sharply in the Manley area after the first period and continued to diminish. Total catches for the Tanana River district were 29,008 fall chum salmon; a total of 30 fishermen participated in the fishery.

Coho Salmon: This species, because of its relatively low abundance and late run timing, is of minor importance in the upriver commercial fishery. During 1981 an estimated 2,284 cohos were commercially harvested in the upper Yukon area. It should be noted that (for reporting purposes) buyers make little effort to distinguish fall chums from cohos. The catch statistics, therefore, reflect daily estimates of species composition documented by fisheries

technicians stationed in Manley and Nenana.

Salmon Roe Sales

Regulations allowing the sale of subsistence-caught salmon roe were repealed in late 1977; it remains legal, however, for commercial fishermen to sell roe taken during open periods of the commercial salmon fishing season. In many cases, the value of (chum) salmon roe exceeds the value of the fish, and for that reason relatively large amounts of eggs are sold, with the carcasses being retained by the fishermen.

During 1981 a total of 201,186 pounds of roe (unprocessed weight) was sold by upriver commercial fishermen (Table 13). Prices paid to fishermen for their roe averaged $3.00 per pound. Because of marketing problems (discussed in the section of this report dealing with summer chums), an unusually large amount of roe (approximately 161,000 lbs.) was produced in subdistrict 4-A. Lesser amounts of roe were sold in districts 5 and 6, and no salmon roe sales were documented in the lower Yukon districts.

Subsistence Fishery, 1981

Subsistence fishery surveys were conducted throughout the Yukon River drainage as they have been each year since 1961. During 1981 38,634 kings, 403,638 chums and 21,728 cohos were reported harvested for subsistence purposes (including Canadian catches). In addition, a minimum of 42,864 whitefish and 7,551 sheefish was taken by subsistence fishermen.

The 1981 subsistence king salmon catch was the second highest catch on record and exceeded only by the 1980 catch (Appendix Table 1). The combined chum and coho salmon subsistence harvest of 425,366 was the third highest since 1964 and exceeded the recent 5-year average of 352,317 by approximately 20% (Appendix Table 21).

Table 14 presents 1981 catch data for each Yukon River community and Appendix Tables 21-23 present comparative historical catches.

Lower Yukon Area

An estimated 9,863 kings and 68,655 salmon of other species were harvested by 381 fishing families in the three lower districts during 1981. The 1981 harvest of kings, chums and cohos for the lower Yukon area was similar to the recent average harvest. Lower Yukon fishermen comprise approximately 36% of the total subsistence fishing effort (excluding Canada) and took 17% of the total salmon catch. The lower Yukon River subsistence fishery appears stable in terms of both effort and catch.

Upper Yukon Area

Exclusive of Canadian catches, the 1981 upper Yukon area subsistence salmon harvest totaled 369,209 fish. Of these, 19,827 were kings and 349,382 were salmon of other species, primarily chums (Table 14). The king salmon subsistence harvest level approximates the 5-year average (+8%), and the catch of chums and cohos was approximately 25% above the 1976-1980 average.

The recent trend toward increasingly large subsistence king salmon harvests appears to be largely a function of run size. Increases in the harvest of other species of salmon are attributed both to strong runs in recent years and, in part, to the increasing number of sled dog teams in the Interior.

The possibility of overestimating the summer chum harvest in district 4 should be noted. As indicated in a previous section of this report, many commercial fishermen in this area had no market for their chum salmon. As a result, many fishermen extracted and sold roe from their catch and retained the carcasses for their personal use. It is likely that in many cases fishermen (particularly in Anvik, Grayling, and Kaltag) reported this portion of their commercial catch as subsistence fish. It is not possible to quantify what portion of the catch may have been double counted.

Subsistence fishing permits are required in three general areas within the Yukon district: 1) the Tanana River drainage upstream of the Wood River confluence; 2) the Yukon River between Hess Creek and the Dall River; and 3) the Yukon River drainage between the upstream mouth of Twentytwo Mile Slough and the U.S./Canadian border. Tabular data on these permit fisheries are presented in Appendix Table 24.

Enforcement, 1981

Lower Yukon Area

The Division of Fish and Wildlife Protection surveyed the lower two Yukon districts by boat on two separate occasions. Though their coverage on these surveys was very complete it represents a small portion of the total fishing time for the entire season. FWP officers reported that they generally found a good compliance with regulations. The most frequent complaint witnessed by Department (Fish and Game) personnel concerned non-permit holders fishing commercially. It is felt that this and most other violations could be eliminated by increased FWP surveillance.

Upper Yukon Area

Compliance with commercial and subsistence fishing regulations in the upper Yukon area continues to improve with increased surveillance by Fish and Wildlife Protection.

The sale of subsistence-caught salmon and salmon roe continues to be a problem. Other common violations include fishing during closed periods and unmarked gear.

Escapement, 1981

The Yukon River drainage is too extensive for complete aerial surey escapement coverage during any given season. In addition, poor survey conditions prevented surveys from being flown during some years or have resulted in minimum estimates. Table 15 presents aerial survey escapement data for all streams surveyed in 1981. Figures 2-6 show major tributary systems and important spawning streams.

Appendix Table 25 presents comparative king salmon escapement data for

selected tributaries during the 1959-1981 period. Aerial surveys of king salmon spawning streams in the Alaskan portion of the drainage were severely limited due to turbid water conditions and inclement weather. King salmon escapements in the few index spawning areas adequately surveyed ranged from average to above average. Record escapements were documented in the South Fork of the Nulato River (791 kings).

In the Yukon Territory, surveys indicated above average king salmon escapement levels. Record escapements were documented in several streams including the following index areas: Nisutlin River (Sidney Creek - 100 Mile Cr.: 1,626 kings), Little Salmon River (670 kings) and Big Salmon River (Big Salmon Lake-Scurvey Creek: 930 kings). The Whitehorse Dam Fishway count of 1,539 kings was the largest recorded. Due to possible problems associated with passage of adults through the fishway and mortality of smolts through turbines, the Whitehorse Dam Fishway is probably not a reliable index of king salmon escapements in the Yukon Territory.

Carcass surveys conducted throughout the drainage in both Alaska and Canada indicated that the quality of the king salmon escapement, in terms of large number of older age females, was very good. The majority of spawners were age 6 females.

Appendix Tables 26 and 27 present comparative summer and fall chum salmon escapements for selected streams. The magnitude of the summer chum escapements were generally above average in the few streams surveyed in 1981. A record 1,486,182 chums were documented in the Anvik River system where the escapement is enumerated by side scan sonar. In the Andreafsky River (East Fork), a total of 147,312 chum salmon spawners were enumerated by side scan sonar.

In 1981, escapements of fall chums were generally average to above average except in the Toklat River where below average escapements were documented (13,907 fall chums). In the Delta River a record escapement of 22,375 fall chums was documented in 1981. In the Sheenjek River 69,043 fall chums were enumerated by side-scan sonar (Appendix Table 27).

Tanana River drainage coho salmon escapements were generally average in 1981. Comparative coho salmon escapement data is presented in Appendix Table 28.

OUTLOOK FOR 1982

King Salmon

It is difficult to predict the relative magnitude of the 1982 Yukon River king salmon run. The majority of the king salmon expected to return in 1982 will probably be composed of six-year-old fish originating from the 1976 brood year. There are indications based on commercial catch and escapement data, that the 1976 brood year run was below average to average in magnitude. However, survival (favorable environmental conditions) of the 1976 brood year were apparently excellent based on the very large incidental catch of 4 year old kings in the Japanese mothership fishery in 1980. A significant "carryover" of 7 year old fish may occur in 1982, based on the exceptionally strong run of 6 year old fish in 1981. Five-year-olds (1977) brood year should also contribute to the run in 1982.

In summary, based on available brood year run size data, the 1982 run of kings is expected to be above average in magnitude. If a poor run develops, fishing time restrictions may be required during the 1982 season in order to obtain adequate spawning escapements. Until future returns can be studied, the commercial harvest of Yukon River king salmon should not exceed 98,000 fish (the approximate mid-point of the 67,350-129,150 guideline harvest range for the entire river) unless an exceptionally large run is indicated.

Summer Chum Salmon

Normally, Yukon River summer chum runs are primarily composed of four-year-old fish. The return of four-year-olds in 1982 will be dependent on the strength of the 1978 brood year run and the survival of the resulting progeny. Based on the available commercial and test fishing catch and escapement data, the summer chum run in 1978 was average in magnitude. The contribution of five-year-old fish (1977 brood year) in 1982 may be substantial based on the exceptionally strong return of 4-year-olds in 1981.

In summary, it is expected that the magnitude of the 1982 Yukon River summer chum run will be above average. The expected commercial harvest should total between 900,000-1,200,000 fish. If the summer chum run in 1982 is below average in magnitude, fishing time restrictions will be necessary to insure adequate escapements.

Fall Chum Salmon

Four-year-old fish from the 1978 brood year are expected to be the predominant age class of the 1982 run. Escapements of fall chums in 1978 were judged to be below average to average in abundance. The return of five-year-olds (1977 brood year) is expected to contribute significantly to the return in 1982 based on the above average return of 4-year-olds occurring in 1981.

In summary, the magnitude of the 1982 Yukon River fall chum run is expected to be average. The expected commercial harvest should approximate 233,000 fish, the mid-point of the overall guideline harvest range. If the fall chum run in 1982 is below average in magnitude, fishing time restrictions will be necessary in order to provide for adequate escapements.

Coho Salmon

Four-year-old fish (1978 brood year) are the dominant age class. Adequate escapement information for coho salmon is lacking but surveys in the Tanana River system indicated average escapements in 1978. The return in 1982 is expected to be of similar magnitude. The coho salmon commercial catch is expected to total 15-25,000 fish, depending on amount of fishing effort exerted on the fall chum run and the duration of the fishing season.

-27-

Figure 1. Yukon River Drainage.
(330,000 square miles)

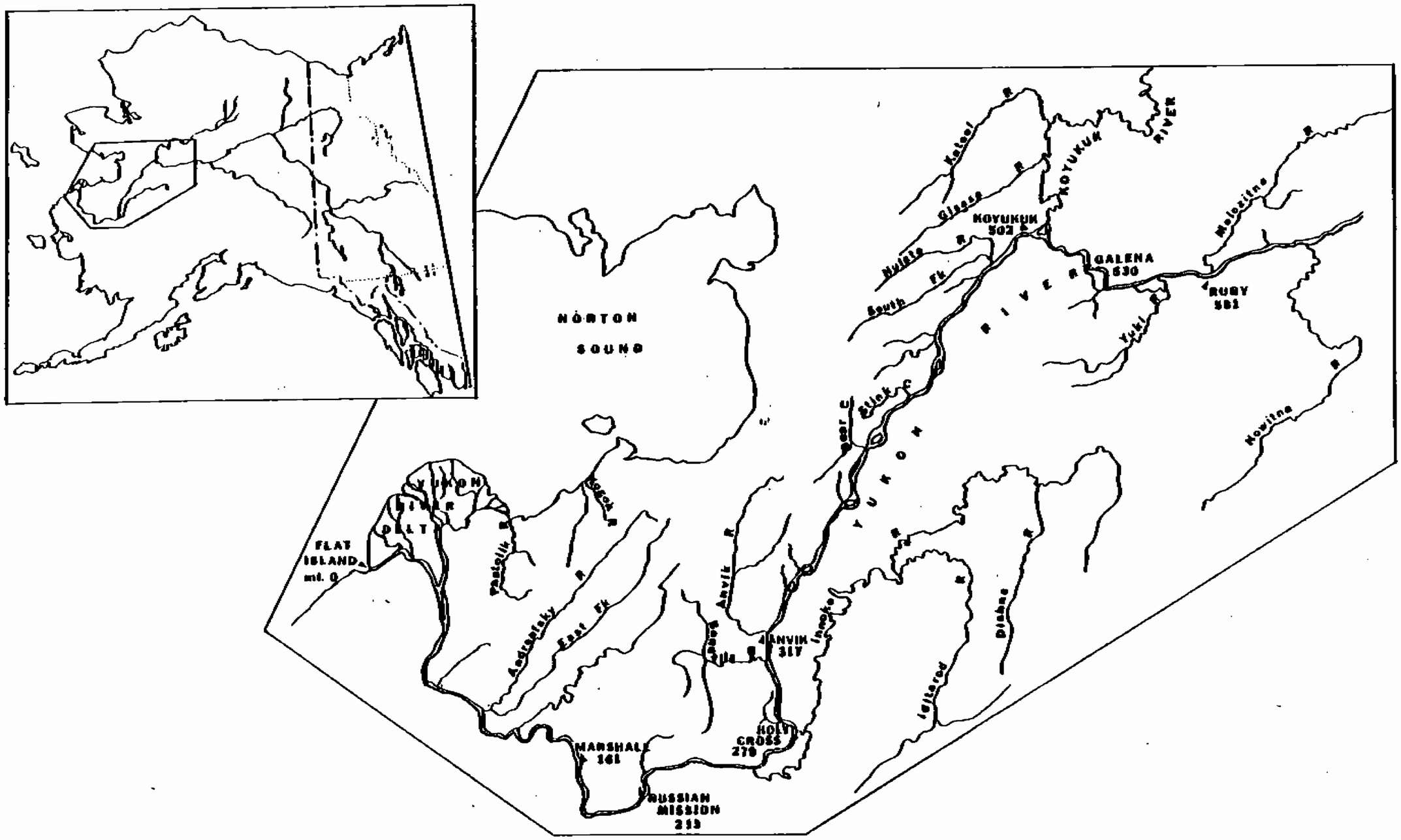


Figure 2. The lower Yukon River drainage.

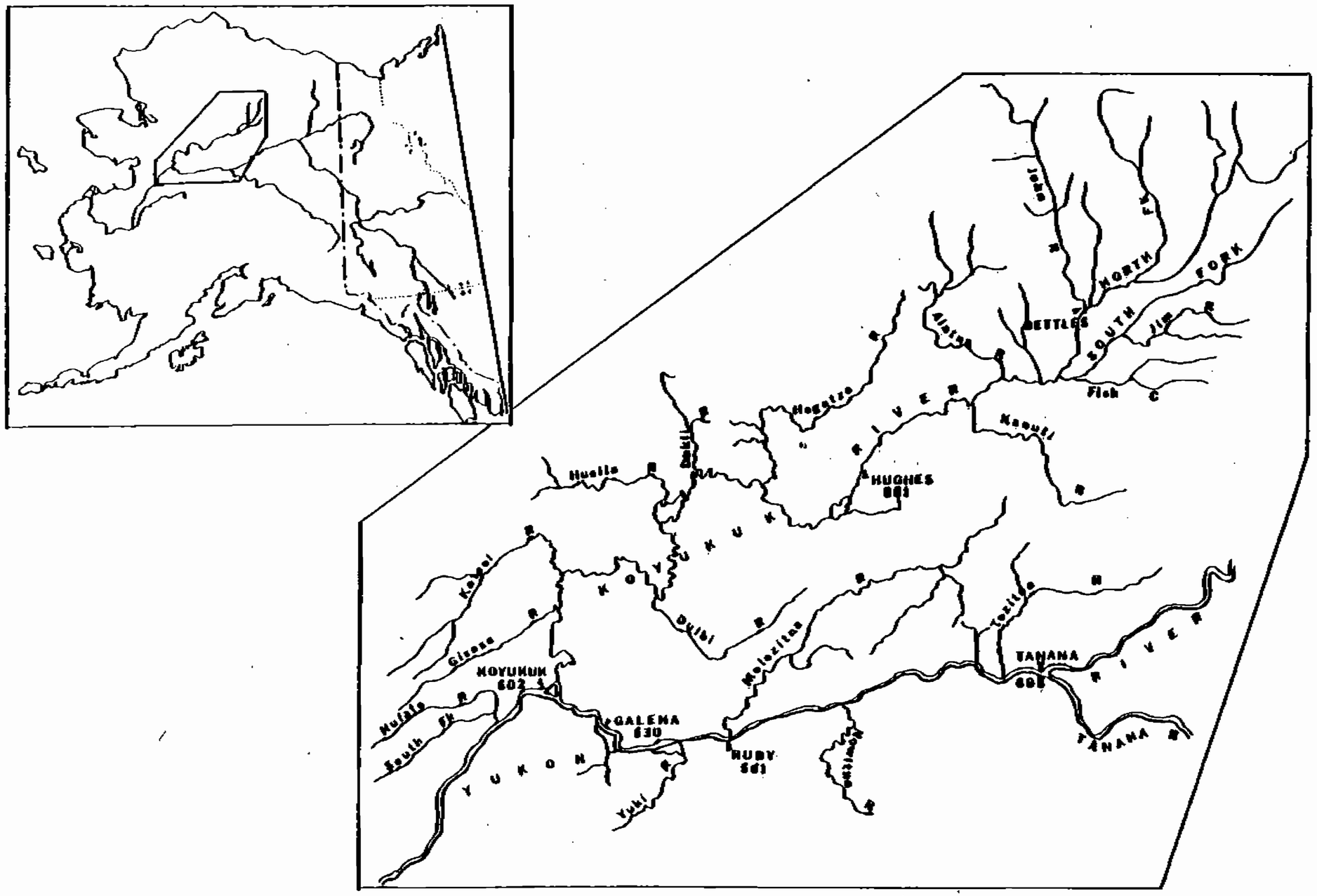


Figure 3. The Koyukuk River drainage.

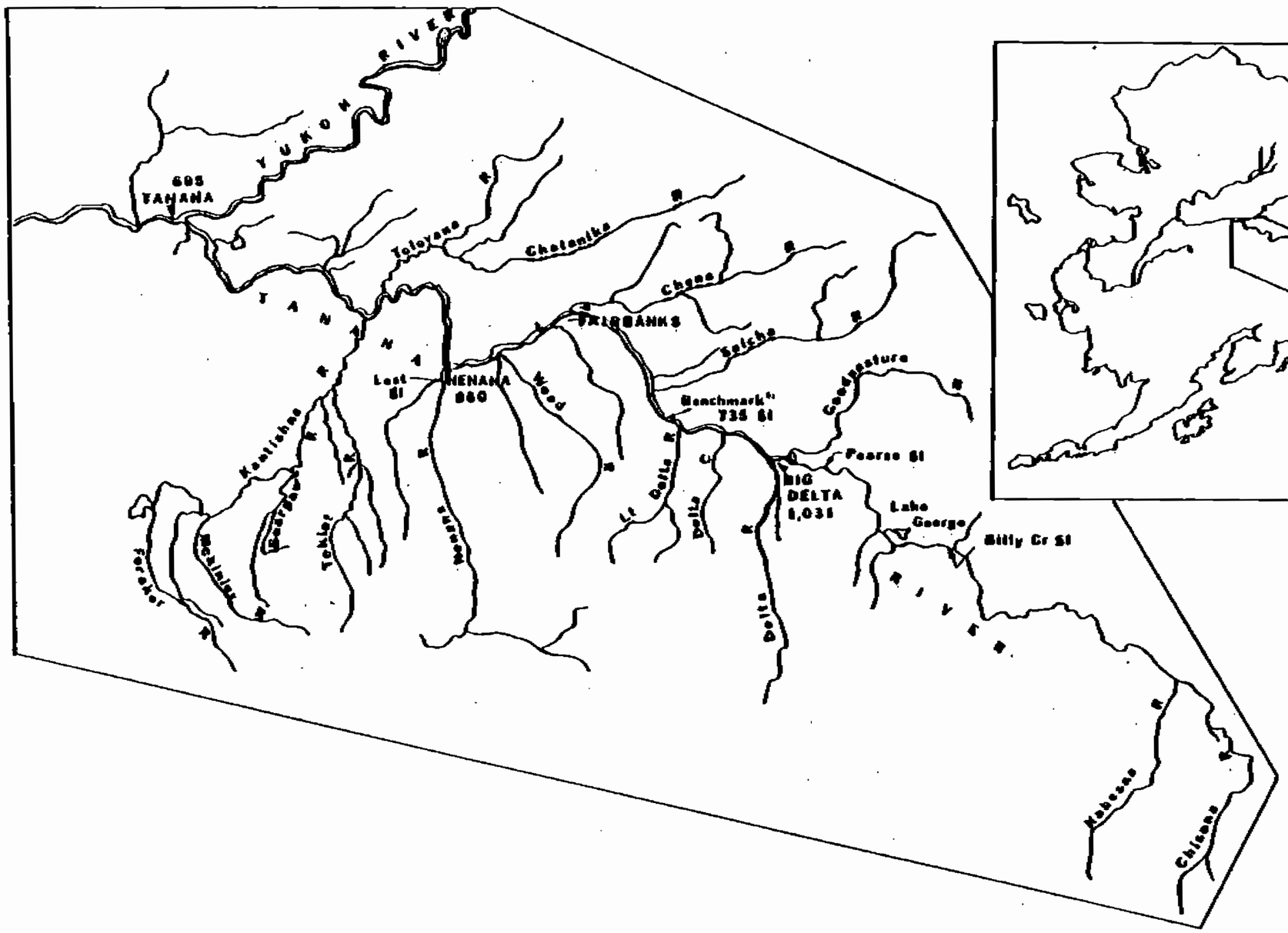


Figure 4. The Tanana River drainage.

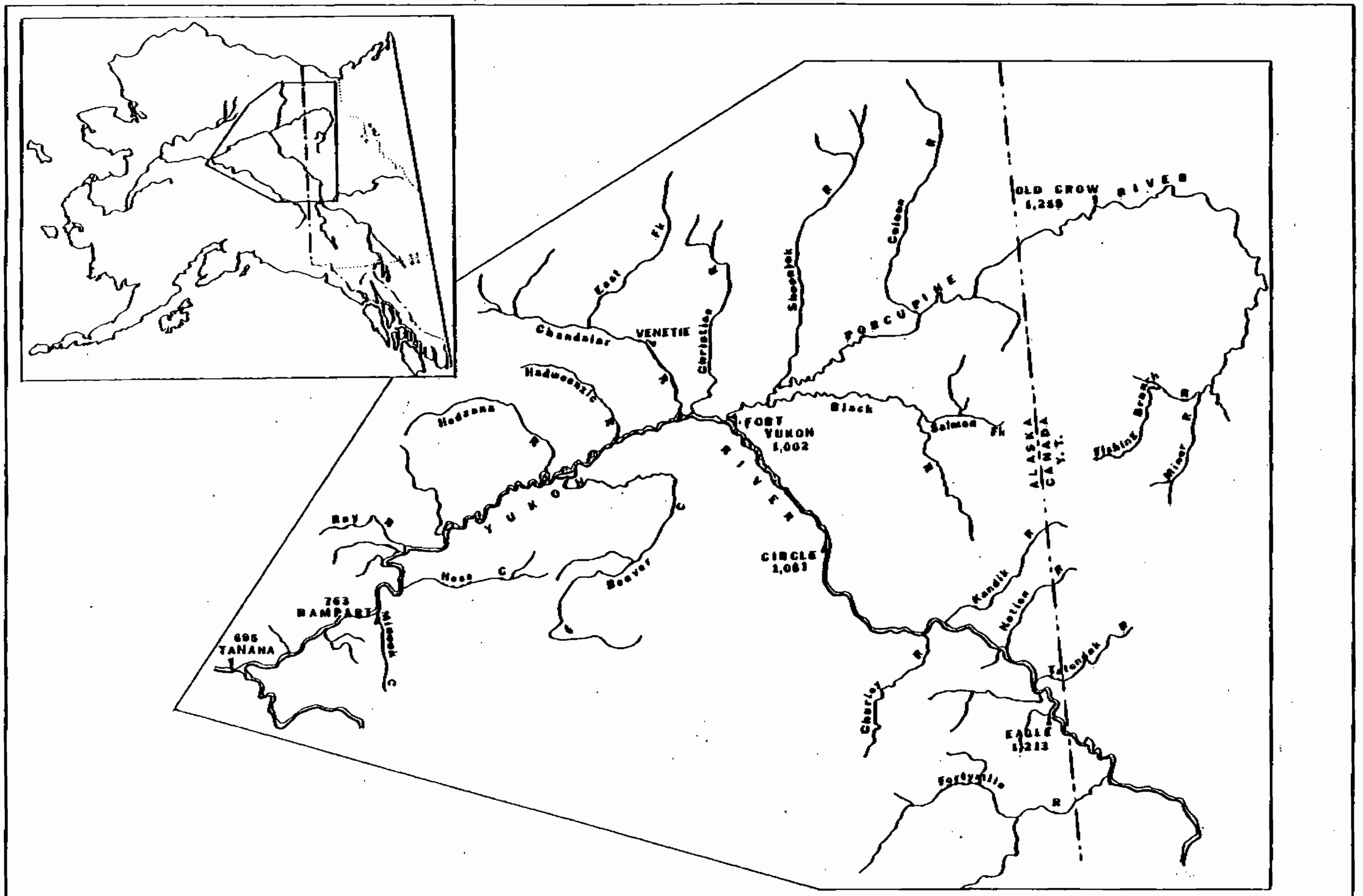


Figure 5. The middle Yukon River and Porcupine River drainage.

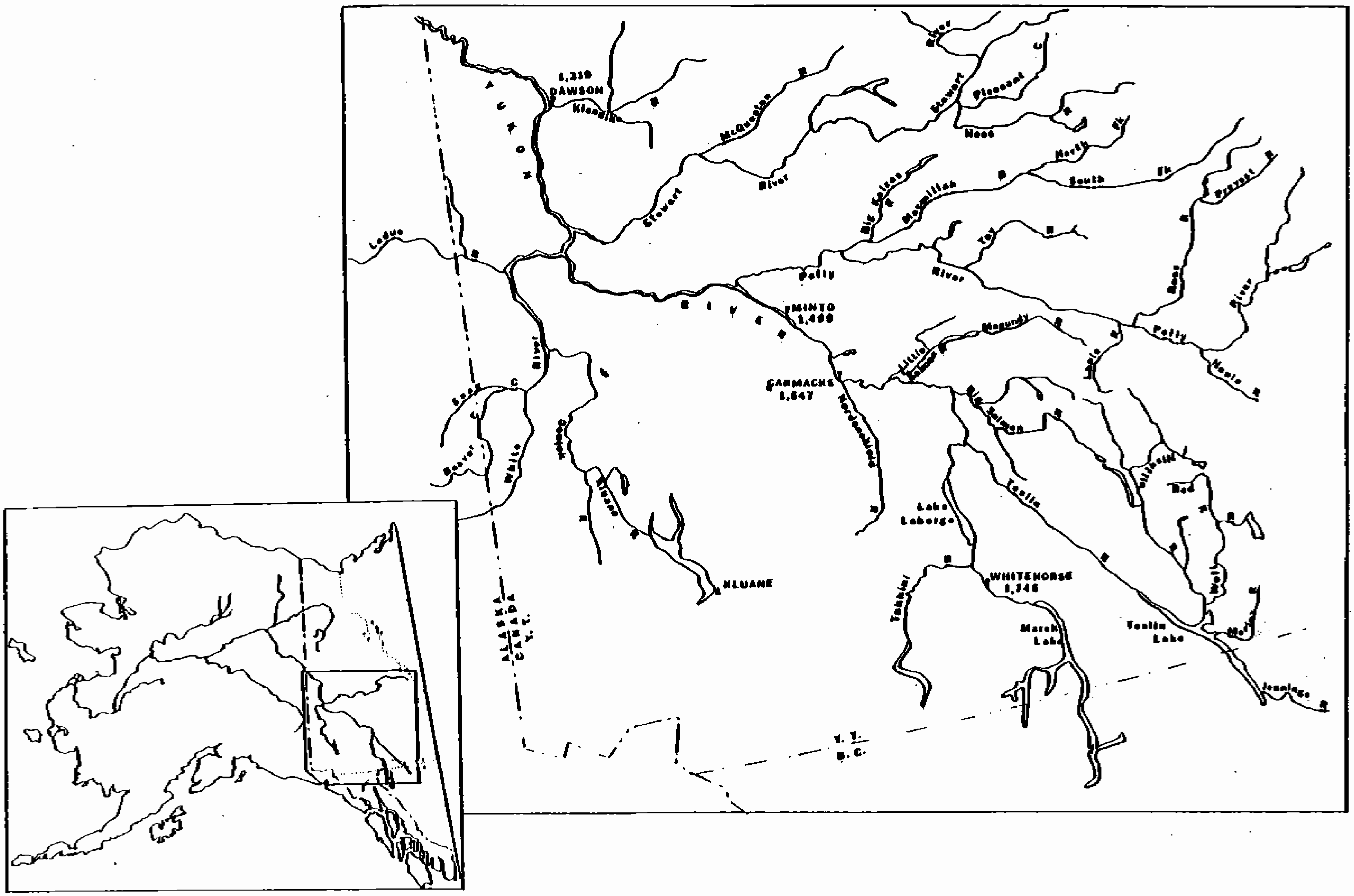


Figure 6. The upper Yukon River drainage.

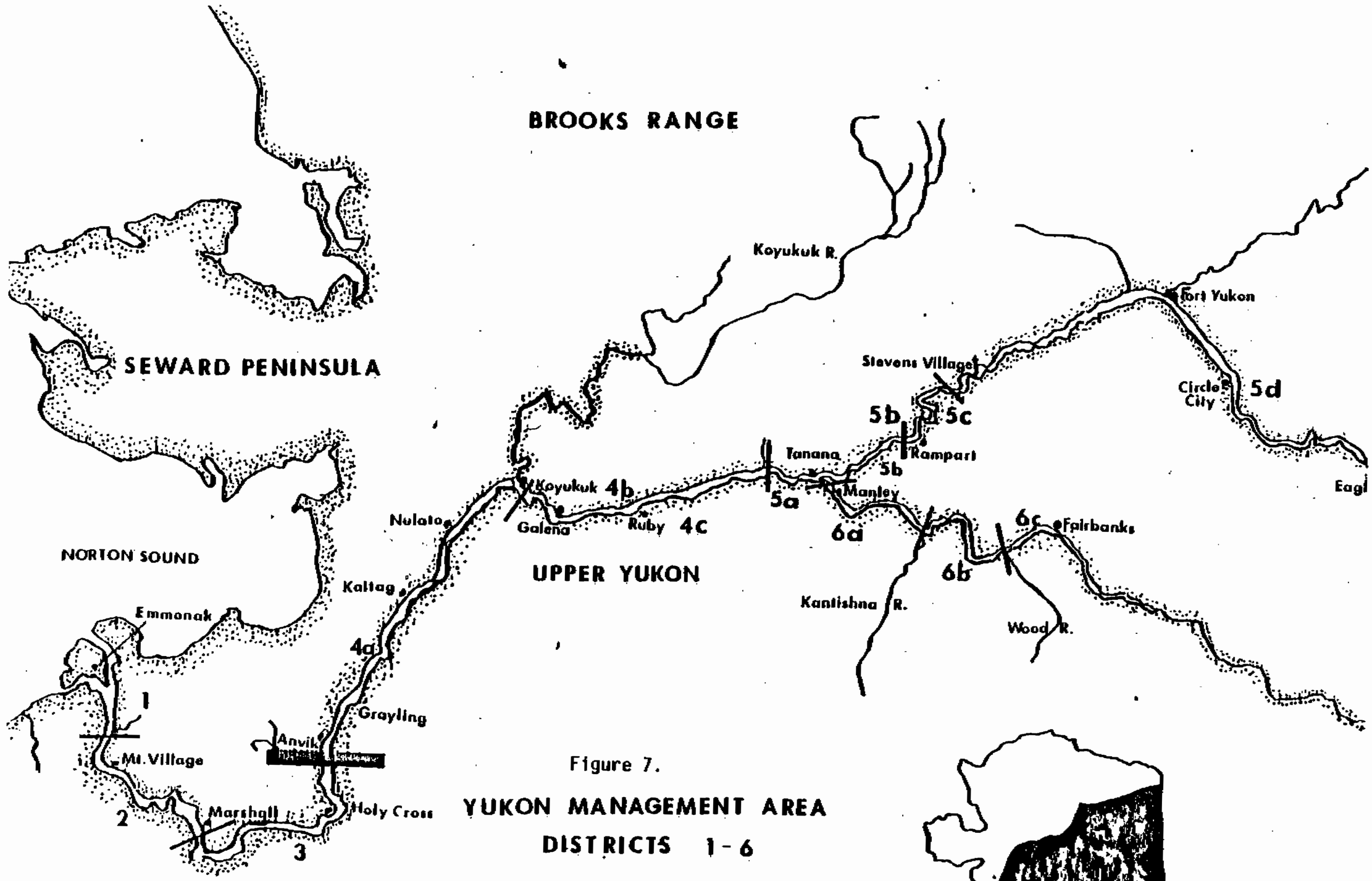
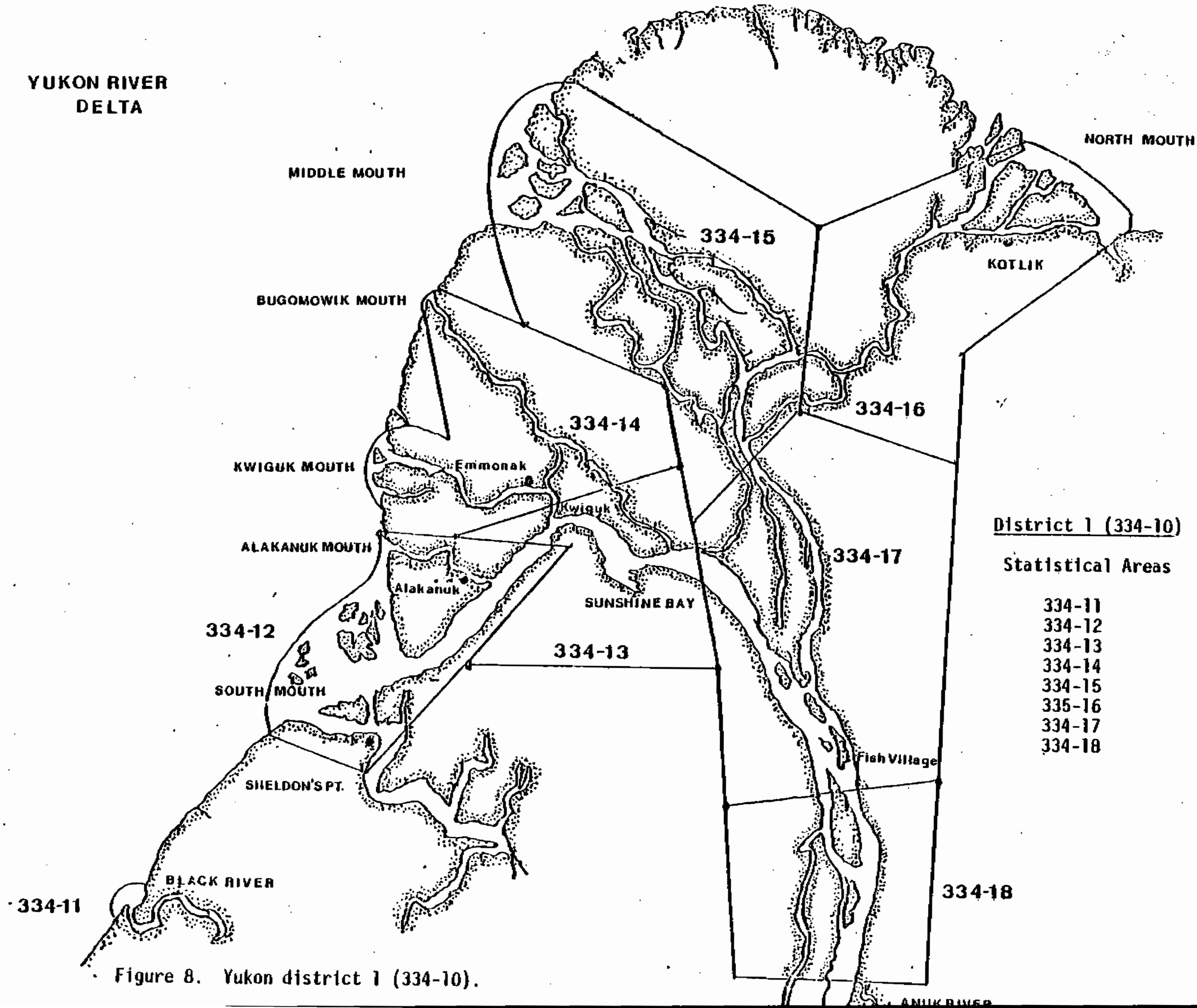


Figure 7.

YUKON MANAGEMENT AREA
DISTRICTS 1-6

YUKON RIVER
DELTA

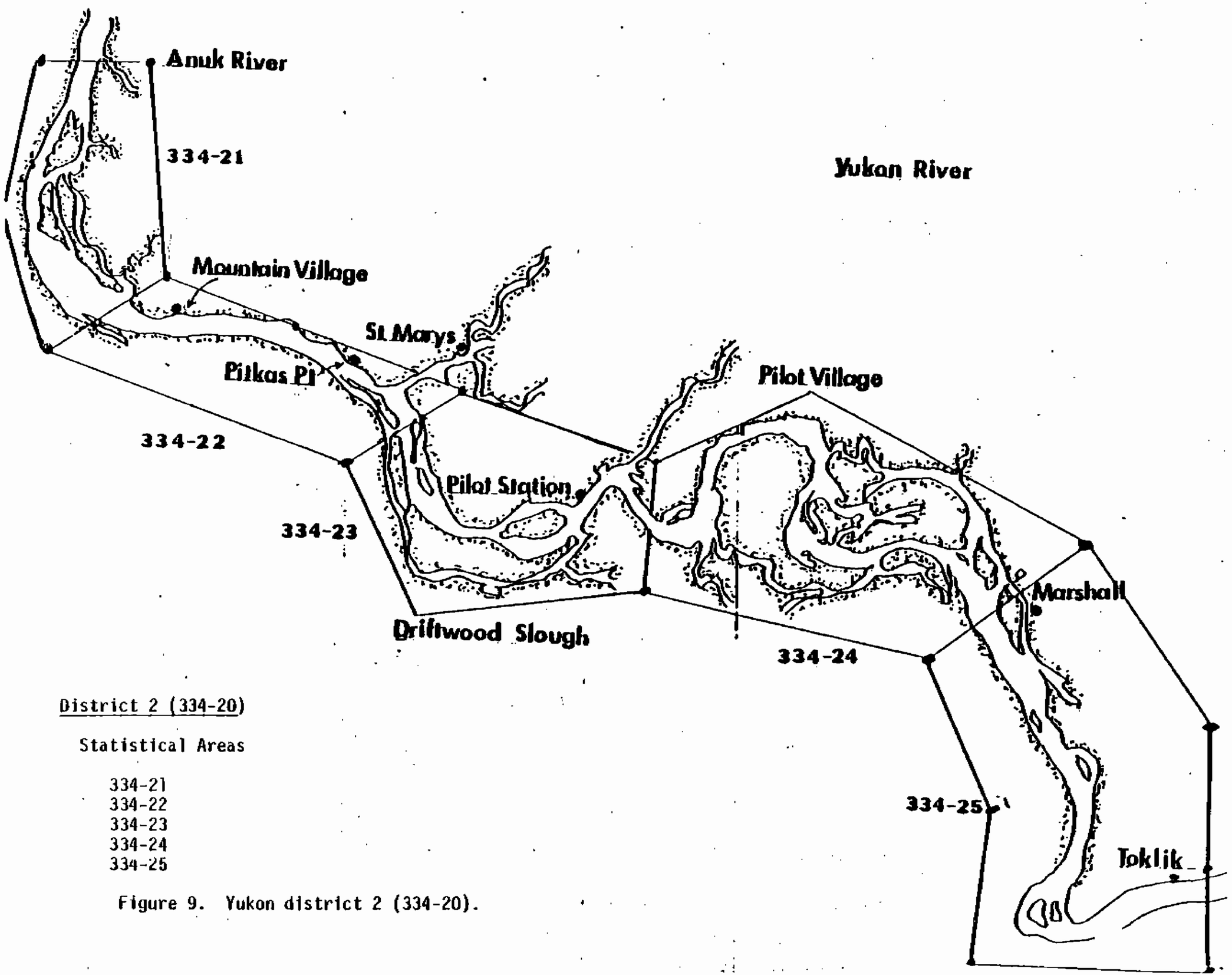


District 1 (334-10)

Statistical Areas

334-11
334-12
334-13
334-14
334-15
335-16
334-17
334-18

Figure 8. Yukon district 1 (334-10).



District 2 (334-20)

Statistical Areas

334-21
334-22
334-23
334-24
334-25

Figure 9. Yukon district 2 (334-20).

District 3 (334-30)

Statistical Areas

334-31
334-32

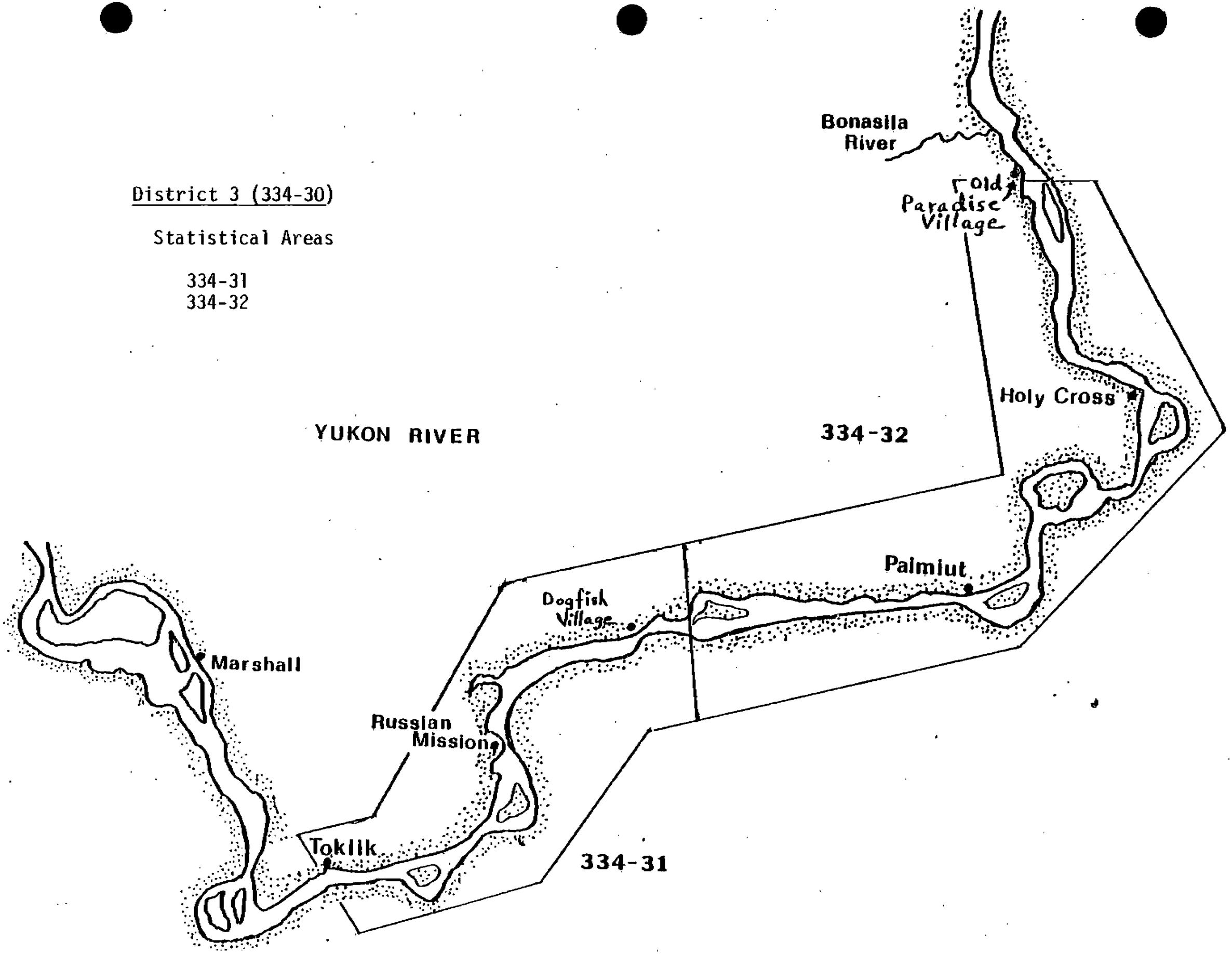
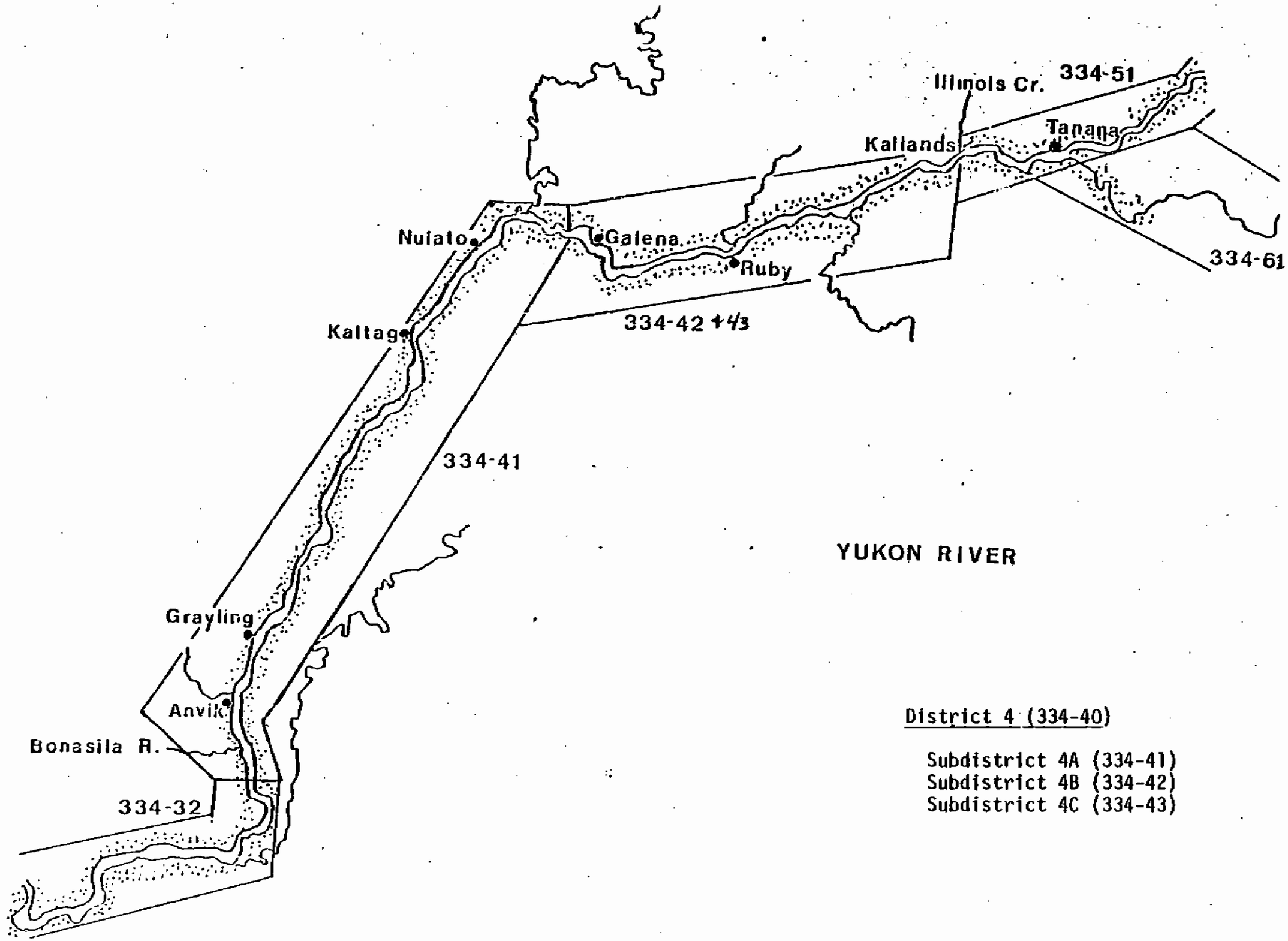


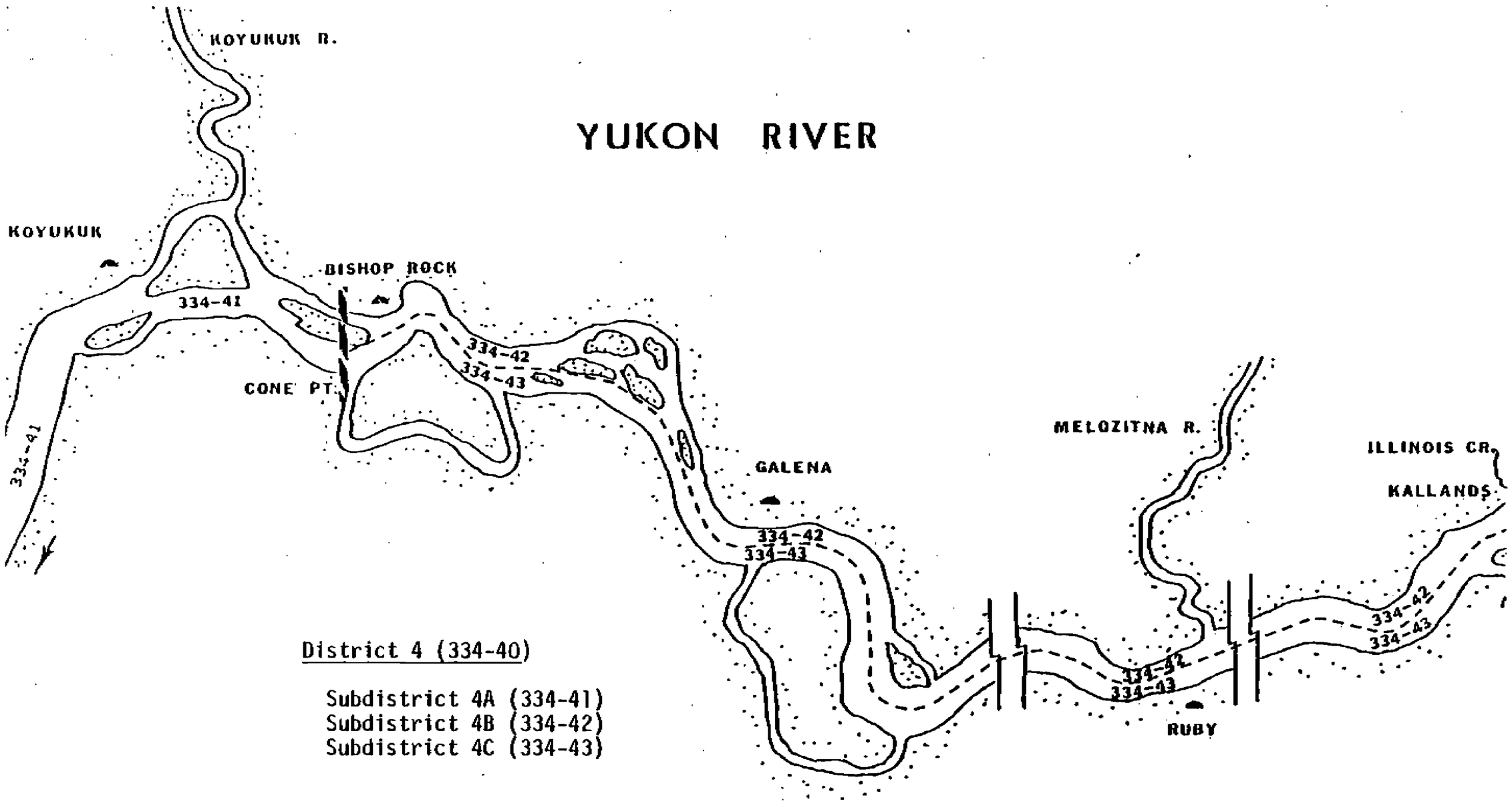
Figure 10. Yukon district 3 (334-30)



District 4 (334-40)

Subdistrict 4A (334-41)
Subdistrict 4B (334-42)
Subdistrict 4C (334-43)

Figure 11. Yukon district 4 (334-40).



District 4 (334-40)

Subdistrict 4A (334-41)
Subdistrict 4B (334-42)
Subdistrict 4C (334-43)

Figure 12. Yukon district 4 (334-40).

District 5: 334-50

Subdistrict 5A (334-51)
Subdistrict 5B (334-52)
Subdistrict 5C (334-53)
Subdistrict 5D (334-54)

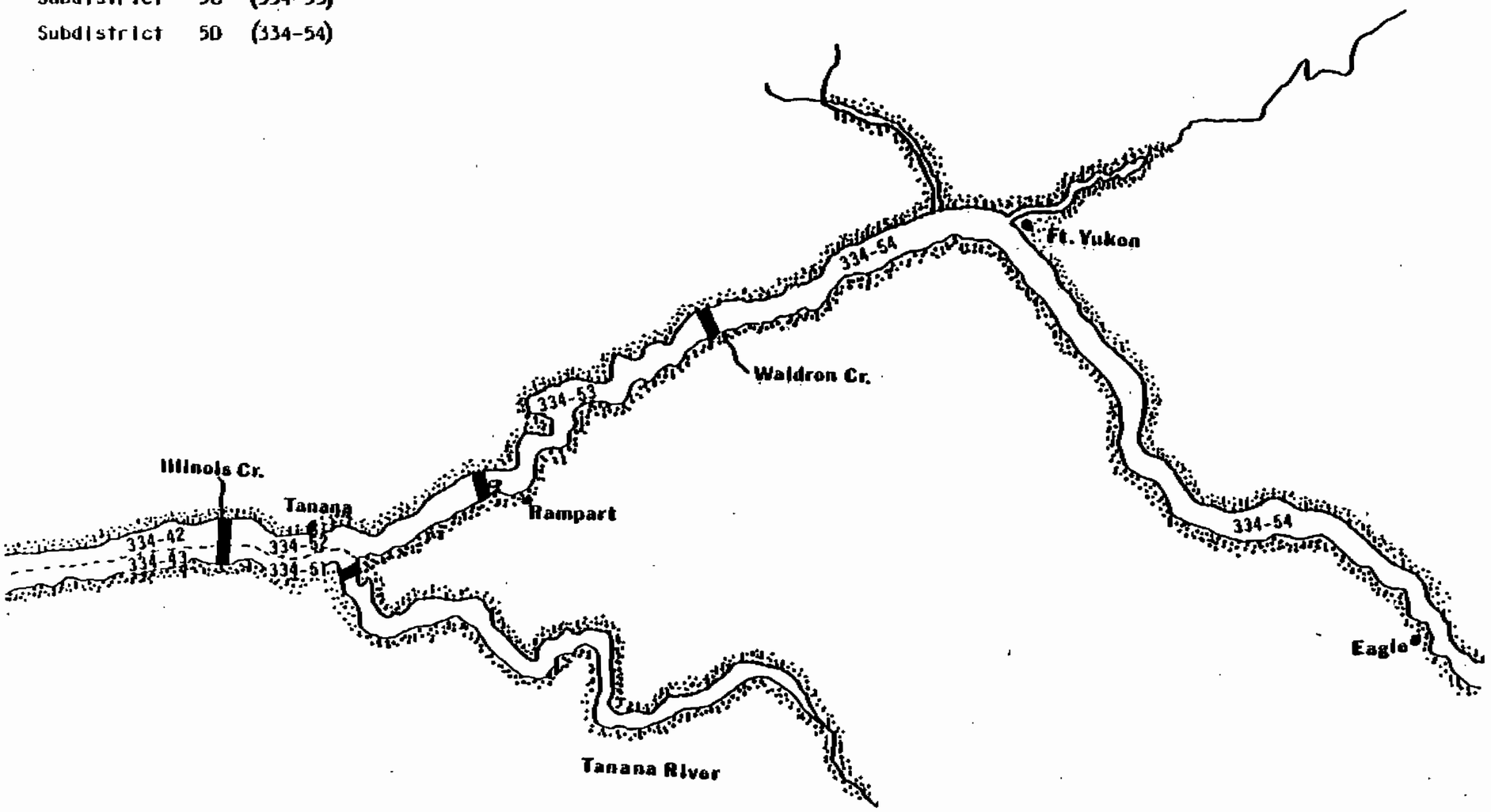
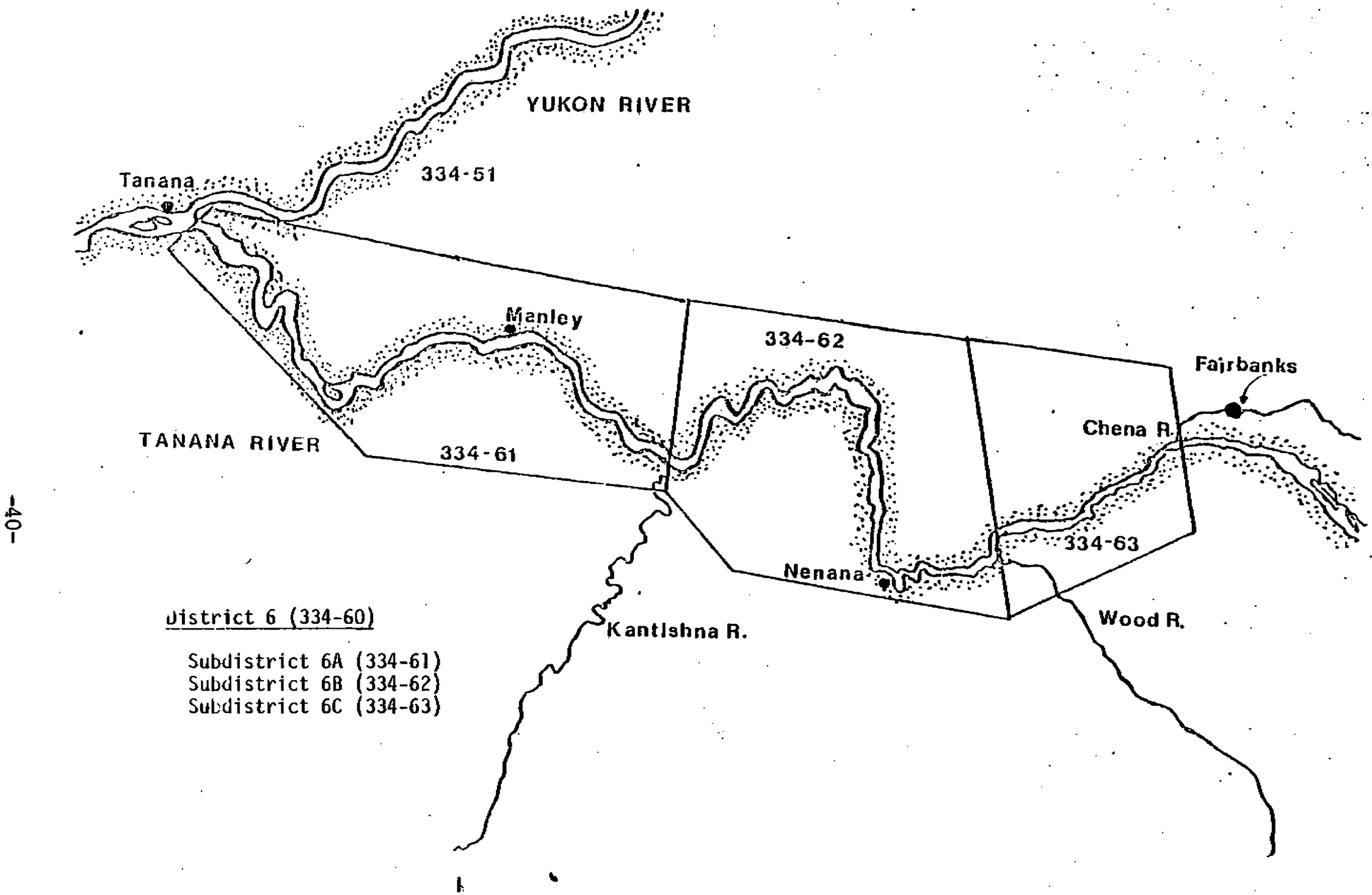


Figure 13. Yukon district 5 (334-50).



District 6 (334-60)

Subdistrict 6A (334-61)
Subdistrict 6B (334-62)
Subdistrict 6C (334-63)

Figure 14. Yukon district 6 (334-60).

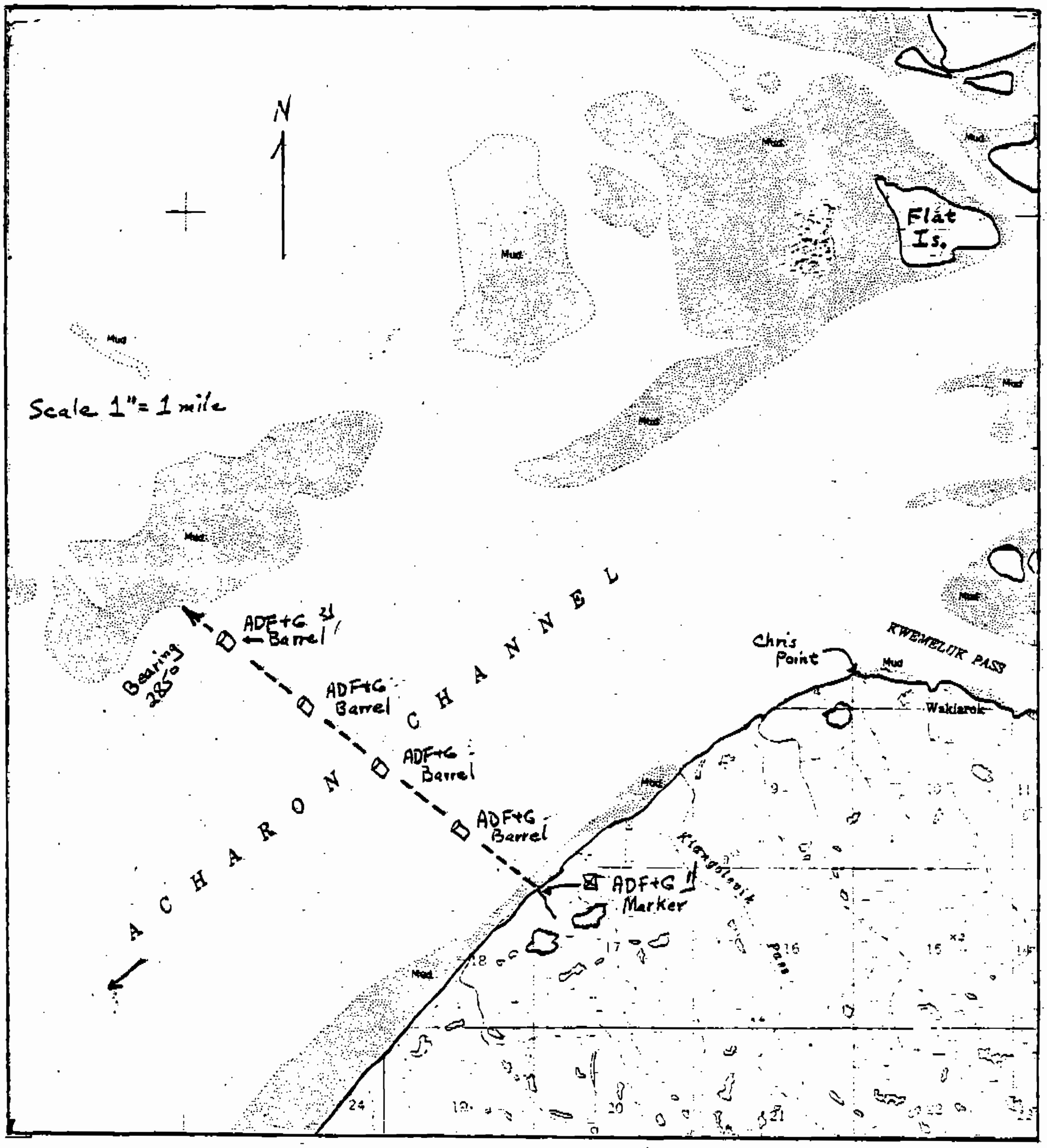


Figure 15. Closed waters Acharon Channel, south mouth Yukon River. (5AAC 05.350. CLOSED WATERS. (1) Acharon Channel of the south mouth area of the Yukon River west of a 2-1/2 nautical mile long line bearing 285° from an ADF&G regulatory marker located below Chris Point to the opposite side of the channel; the line may be marked by a series of yellow and green barrels placed by the Department between shore markers).

1/ ADF&G Regulatory Marker Sign, erected 5' height with driftwood logs, located on river bank at terminus of rivulet between two lakes approximately 2-1/2 miles below Chris Point.

2/ ADF&G yellow and green 55 gal. barrels anchored offshore.

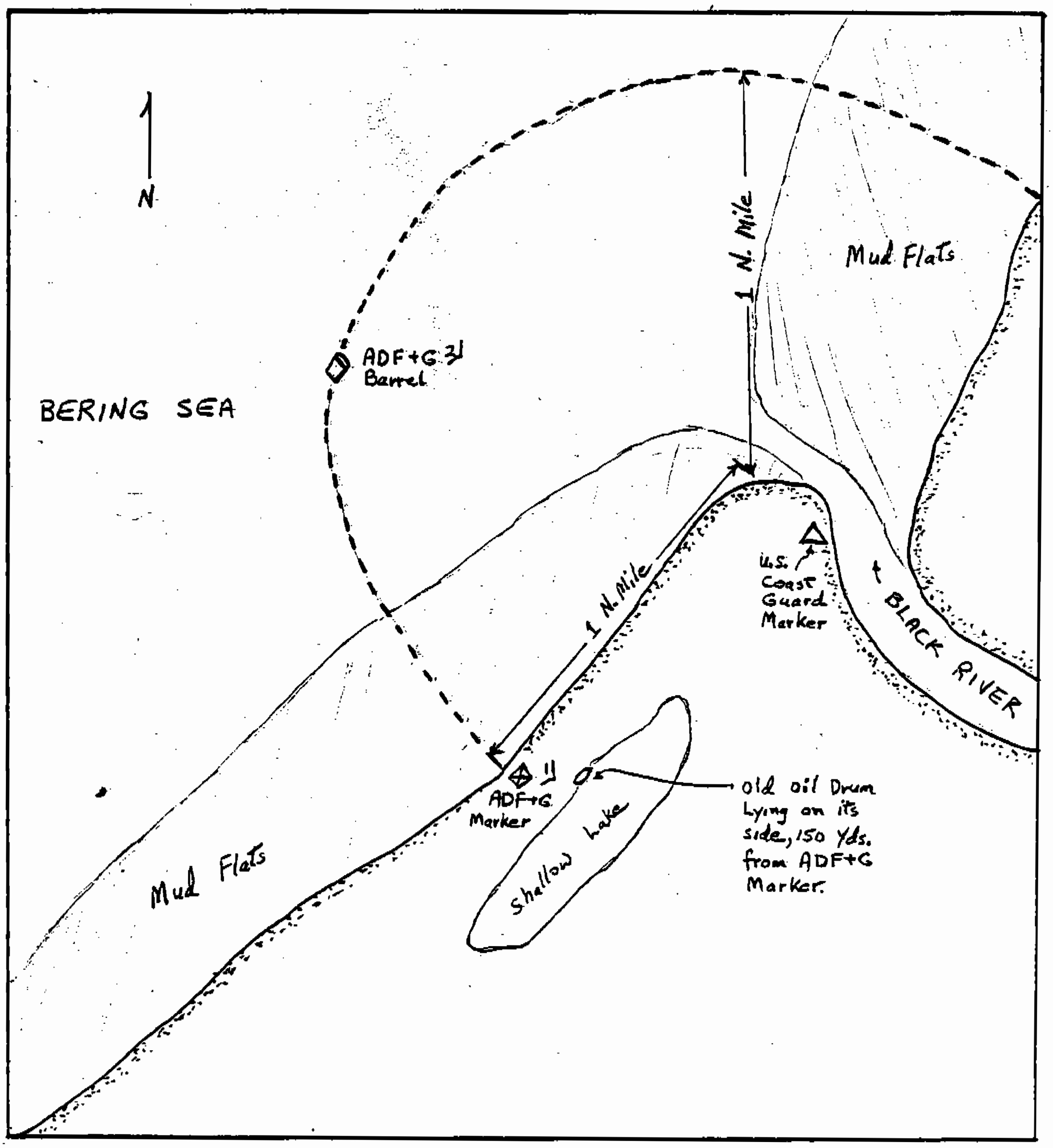


Figure 16. Closed waters of Black River mouth. (5AAC 05.350. CLOSED WATERS. (3) waters west of a one nautical mile radius from the mouth of Black River).

1/ ADF&G Regulatory Marker Sign erected 6' height with driftwood logs.

2/ ADF&G yellow and green 55 gal. barrel anchored 1 nautical mile offshore.

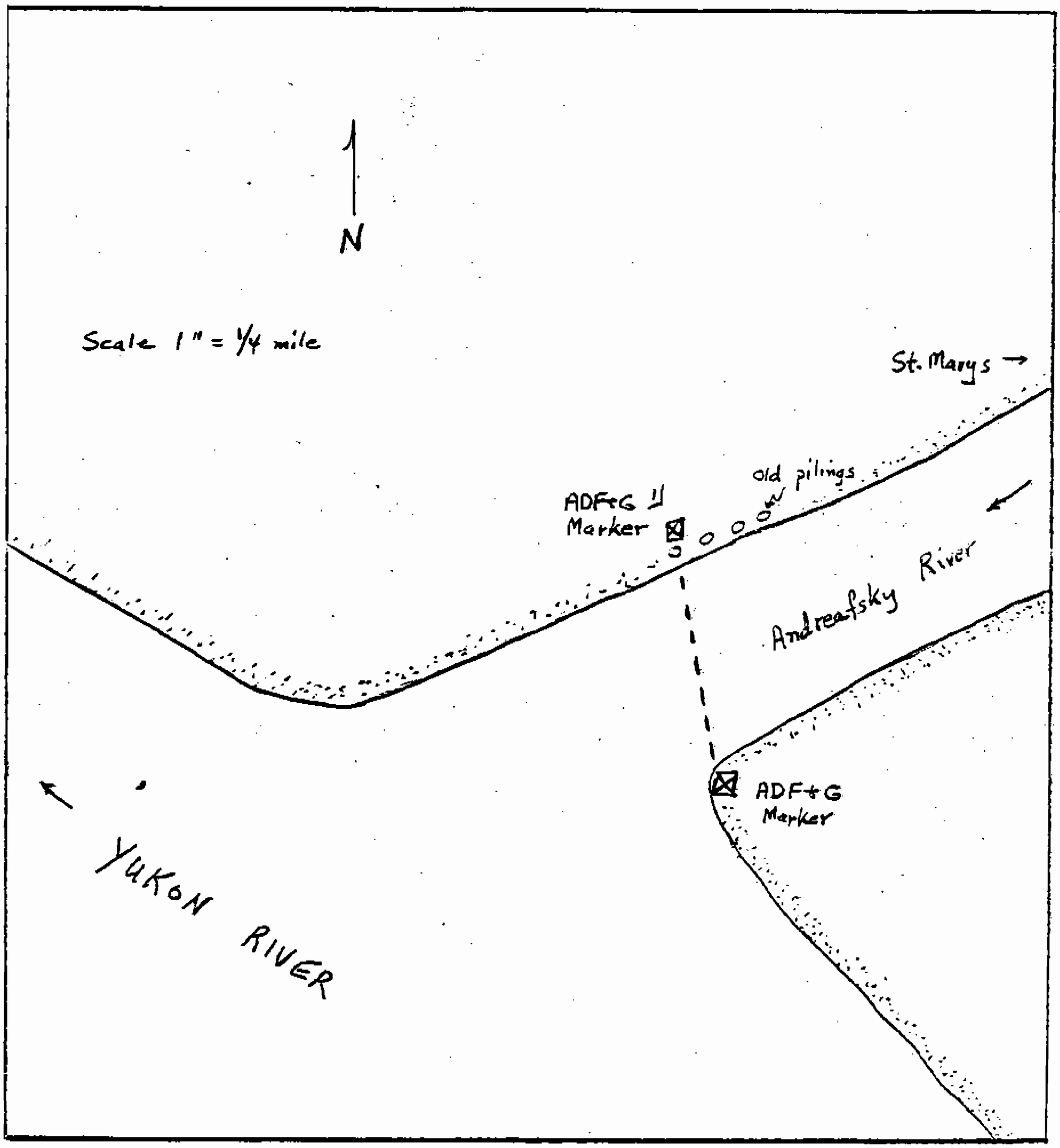


Figure 17. Closed waters of Andreafsky River mouth. (5AAC 05.350. CLOSED WATERS. (4) waters of the Andreafsky River upstream of a line from Department regulatory markers placed on each side of the river at its mouth).

1/ North bank ADF&G regulatory marker sign attached to 4th wooden piling stump downstream.

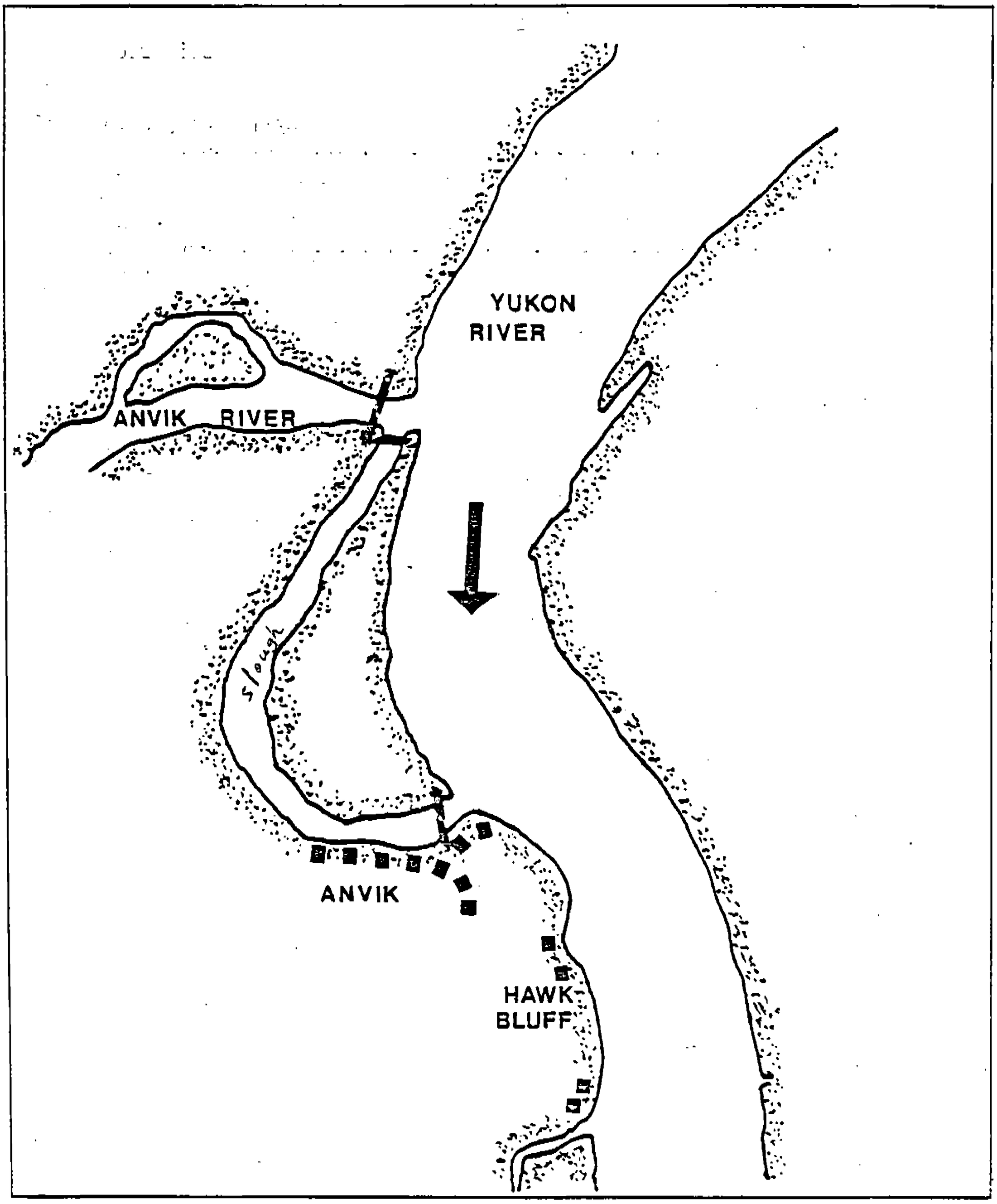


Figure 18. Closed waters of Anvik River mouth. (5AAC 05.350. (CLOSED WATERS.(8) waters of the Anvik River upstream of a line between department regulatory markers placed on each side of the river at its mouth). Markers (6) placed north and south banks of the Anvik River mouth and at upstream and downstream mouths of slough (Old Anvik River Channel).

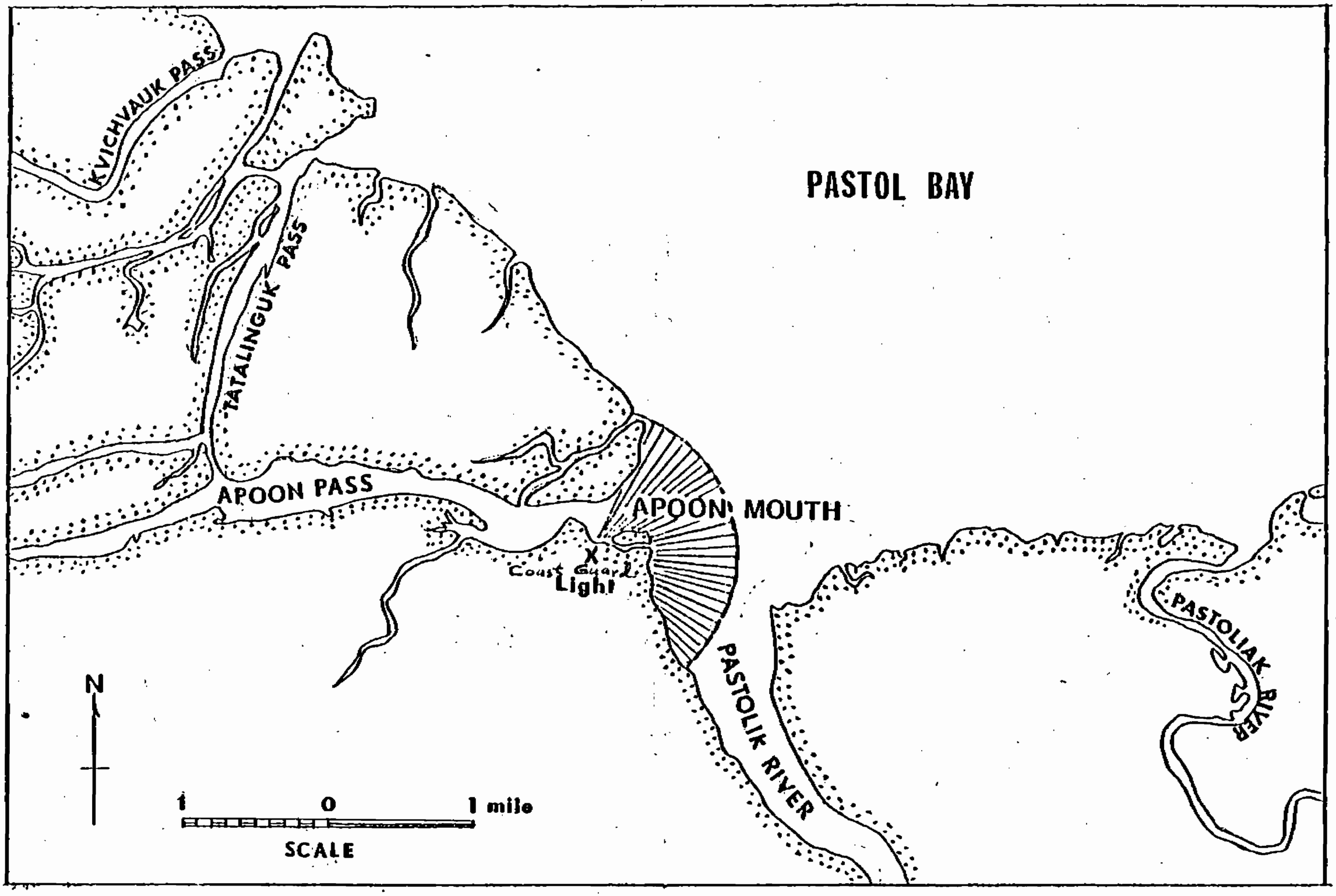


Figure 19. Closed waters of Apoon Mouth, Yukon River (5 AAC 05.350. CLOSED WATERS. (9) Waters east of a one nautical mile radius from a U.S. Coast Guard light at the mouth of Apoon Pass).

Table 1. List of indigenous fishes found in the Yukon area. 1/

Species Code	Scientific Name	Common Name
601	Lampetra japonica	Arctic lamprey
570	Stenodus leucichthys	Sheefish
581	Coregonus nasus	Broad Whitefish
582	Coregonus pidschian	Humpback Whitefish
583	Coregonus sardinella	Least Cisco
585	Coregonus laurettae	Bering Cisco
586	Prosopium cylindraceum	Round Whitefish
587	Prosopium coulteri	Pygmy Whitefish
610	Thymallus arcticus	Arctic Grayling
550	Salvelinus namaycush	Lake Trout
520	Salvelinus alpinus	Arctic Char
530	Salvelinus malma	Dolly Varden
410	Oncorhynchus tshawytscha	King Salmon
420	Oncorhynchus nerka	Red Salmon
430	Oncorhynchus kisutch	Coho Salmon
440	Oncorhynchus gorbuscha	Pink Salmon
450	Oncorhynchus keta	Chum Salmon
513	Osmerus mordax dentex	Rainbow Smelt
514	Hypomesus olidus	Pond Smelt
500	Esox lucius	Pike
630	Dallia pectoralis	Blackfish
650	Couesius plumbeus	Lake Chub
640	Catostomus catostomus	Longnose Sucker
670	Percopsis omiscomaycus	Trout-perch
590	Lota lota	Burbot, Lush
661	Pungitius pungitius	9-spine Stickleback
162	Cottus cognatus	Slimy Sculpin
	ESTUARINE	
113	Eleginus gracilis	Saffron Cod
121	Pleuronectes stellatus	Starry Flounder
122	Liopsetta glacialis	Arctic Flounder
230	Clupea pallasii	Pacific Herring
	Mallotus villosus	Capelin

1/ Includes fishes found in the Yukon River drainage in Canada.

Table 2 . Yukon River Drainage Mileages

Location	Mileages from Mouth
North Mouth (Apoon Pass)	
Kotlik	6
Hamilton	26
Middle Mouth (Kwikpak, Kawanak Pass)	
Choolunawick	16
Akers Camp	26
New Hamilton	34
South Mouth (Kwikluak Pass)	
Mouth, Black River	-18
Flat Island Test Fishing Site	0
Sheldons Point	5
Tin Can Point	8
Alakanuk	17
Emmonak-Kwiguk (Kwiguk Pass)	24
Sunshine Bay	24
Aproka Pass (upstream mouth)	35
Kwikpak Pass (upstream mouth)	44
Head of Passes	48
Fish Village	52
Mouth Anuk River (District 1/2 Boundary)	63
Patsys Cabin	71
Mountain Village	87
Old Andreafsky	97
Pitkas Point	103
Mouth, Andreafsky River	104
St. Marys	107
Pilot Station	122
Mouth, Atchuelinguk (Chulinak) River	126
Pilot Village	138
Marshall (Fortuna Ledge)	161
Upstream Mouth Owl Slough	163
Ingrihak	170
Ohogamut	185
Toklik (District 2/3 Boundary)	191
Kakamut	193
Russian Mission	213
Dogfish village	227
Paimuit	251
Mouth, Innoko River (South Slough)	274

Shageluk	328
Holikachuk	383
Holy Cross	279
Mouth, Koserefski River	286
Old Paradise Village (District 3/4 Boundary)	301
Mouth, Bonasila River	306
Anvik	317
Mouth, Anvik River	318
Grayling	336
Mouth, Thompson Creek	349
Blackburn	370
Eagle Slide	402
Mouth, Rodo River	447
Kaltag	450
Mouth, Nulato River	483
Nulato	484
Koyukuk	502
Mouth, Koyukuk River	508
Mouth, Gisasa River	564
Huslia	711
Mouth, Dakli River	755
Mouth, Hogatza River	780
Hughes	881
Mouth, Kanuti River	935
Alatna (Mouth, Alatna River)	956
Allakaket	956
Mouth, South Fork	986
Mouth, John River	1,117
Bettles	1,121
Middle Fork	1,141
Cold Foot	1,174
Wiseman	1,186
Bishop Rock	514
Prospect Point	519
Galena	530
Whiskey Creek	555
Mouth, Yuki River	562
Ruby	581
Mouth, Melozitna River	583
Horner Hot Springs	605
Kokrines	608
Mouth, Nowitna River	612
Birches	647
Kallands - Mouth of Illinois Creek (District 4/5 Boundary)	664
Mouth, Tozitna River	681
Tanana Village	695
Mouth, Tanana River (District 5/6 Boundary)	695
Manley Hot Springs	765
Mouth, Kantishna River	793
Mouth, Toklat River	838
Mouth, Sushana River	850
Mouth, Bearpaw River	887
Outlet, Lake Minchumina	959

Minto	835
Nenana	860
Mouth, Nenana River	860
Mouth, Wood River	894
Rosie Creek Bluffs	912
Mouth, Chena River (Fairbanks)	920
Mouth, Salcha River	965
Benchmark #735 Slough	991
Mouth, Little Delta River	1,000
Mouth, Delta Creek	1,014
Mouth, Clear Creek (Richardson-Clearwater)	1,015
Mouth, Shaw Creek	1,021
Mouth, Delta River (Big Delta)	1,031
Delta Junction	1,041
Mouth, Goodpaster River	1,049
Bluff Cabin Slough	1,050
Outlet, Clearwater Lake	1,052
Mouth, Clearwater Creek, (Delta Clearwater)	1,053
Mouth, Gerstle River	1,059
Outlet, Healy Lake	1,071
Outlet, Lake George	1,086
Tanacross	1,128
Outlet, Tetlin Lake	1,188
Mouth, Nabesna River	1,210
Northway Junction	1,214
Mouth, Chisana River	1,215
Mouth, Sheep Creek	1,297
Rampart Rapids	731
Rampart	763
Mouth, Hess Creek	789
Mouth, Ray River	817
Highway Bridge - Pipeline Crossing	820
Mouth, Dall River	841
Stevens Village	847
Mouth, Hodzana River	897
Beaver	932
Mouth, Hadweenzic River	952
Mouth, Chandalar River (Venetie Landing)	982
Venetie	1,025
Fort Yukon	1,002
Mouth, Porcupine River	1,002
Mouth, Black River	1,026
Chalkyitsik	1,084
Mouth, Salmon River	1,142
Mouth, Salmon Trout River	1,193
Mouth, Sheenjek River	1,054
Mouth, Coleen River	1,157
U.S.-Canadian Border	1,219
Old Crow	1,259
Fishing Branch River spawning area	1,600
Circle	1,061
Woodchopper	1,110
Mouth, Charley River	1,124

Mouth, Kandik River	1,135
Mouth, Nation River	1,166
Mouth, Tatonduk River	1,186
Mouth, Seventymile River	1,194
Eagle	1,213
U.S.-Canadian Border	1,224
Mouth Fortymile River	1,269
Dawson	1,319
Mouth, Klondike River	1,320
Mouth, Sixty Mile River	1,369
Mouth, Stewart River	1,375
McQuesten	1,455
Stewart Crossing	1,491
Mayo	1,520
Mouth, Hess River	1,594
Mouth, White River	1,386
Mouth, Donjek River	1,455
Mouth Kluane River	1,541
Outlet Kluane Lake	1,587
Burwash Landing	1,595
Kluane	1,625
Fort Selkirk	1,477
Mouth, Pelly River	1,478
Pelly Crossing	1,410
Mouth, MacMillan River	1,442
Ross River	1,602
Minto	1,499
Mouth, Tatchun Creek	1,530
Carmacks	1,547
Mouth, Little Salmon River	1,583
Mouth, Big Salmon River	1,621
Mouth, North Big Salmon River	1,641
Mouth, South Big Salmon River	1,657
Outlet, Big Salmon Lake	1,714
Mouth, Teslin River	1,654
Roaring Bull Rapids	1,707
Johnson's Crossing (Outlet, Teslin Lake)	1,756
Teslin	1,780
Mouth Nisutlin River	1,788
Mouth, Sidney Creek	1,837
Mouth, Hundred Mile Creek	1,851
Mouth, McNeil River	1,887
Outlet, Nisutlin Lake	1,892
Outlet, Lake Laberge	1,679
Inlet, Lake Laberge	1,712
Mouth, Takhini River	1,718
Whitehorse	1,745
Mouth, M'Clintock River	1,769
Outlet, Marsh Lake	1,764
Outlet, Little Atlin Lake	1,788
Outlet, Atlin Lake	1,812
Atlin	1,844
Tagish	1,786
Outlet, Tagish Lake	1,788
Carcross (Outlet Lake Bennett)	1,810
Bennett	1,835

Table 3. Yukon area processors and associated data, 1981.

Commercial operator (Processing location/buying station)	Product	District
Sterling Seafoods Inc. Box 1847 Sitka, Alaska 99835 (M/V Alaska Star and M/V Axel D) (Kokechik Bay)	Sac Roe Herring (Frozen)	Cape Romanzof
Speedwell Inc. 1425 Bank of Calif. Center Seattle, WA 98164 (M/V Lafayette and M/V Speedwell) (Kokechik Bay)	Sac Roe Herring (Frozen)	Cape Romanzof
Sea Fisher Products Box 8 Petersburg, AK 99833 (M/V Arctic Fisher) (Kokechik Bay)	Sac Roe Herring	Cape Romanzof
Offshore Fisheries 3601 Gilman Ave W. Seattle, WA 98199 (M/V Westward Wind, M/V Northwest Enterprise, and M/V Alaskan Enterprise) (Scammon Bay)	Sac Roe Herring (Salt Brine)	Cape Romanzof
Yukon Delta Fish Marketing Co-op Inc. Emmonak, Alaska 99581 (Emmonak)	Frozen Salmon Kings Cohos Chums Salmon Roe	1

Table 3. Yukon area processors and associated data, 1981.

Commercial operator (Processing location/buying station)	Product	District
Amukon Trading Post Scammon Bay, Alaska 99662 (Black River)	Hard salt Kings Chums	1
Bering Sea Fisheries, Inc. 19849 8th N.W. Seattle, WA. 98177 (Lamont Slough)	Frozen salmon and canned (#1 talls) Kings Cohos Chums Salmon Roe	1 & 2
Whitney Fidelgo Seafoods (Mokuhona Fisheries) 4401 W. International Airport Rd. Anchorage, Alaska 99502 (Alakanuk and Kotlik)	Fresh salmon Kings Chums Cohos Salmon Roe	1
Schenk Seafood Sales, Inc. P. O. Box 984 Bellingham, WA 98225 (Lamont Slough)	Frozen salmon Kings Cohos Chums Salmon Roe	1 & 2
Trinity Seafoods Inc. 129 Viewcrest Port Angeles, WA 98362 (St. Marys)	Fresh Salmon Chums Kings Cohos	1 & 2
Seafoods of Alaska Box 307 Sterling, Alaska 99762 (Kotlik)	Fresh salmon Kings Chums	1 & 2

Table 3. Yukon area processors and associated data, 1981.

Commercial operator (Processing location/buying station)	Product	District
Azachorak Corp, DBA The Village Cannery Mountain Village, Alaska 99632 (Mt Village)	Hard salt, fresh/ frozen & canned (#1/2 flats) salmon Kings Chums, cohos Salmon roe	1 & 2
Boreal Fisheries 24320 - 70th Ave. East Graham, WA. 98338 (Old Andreafsky)	Fresh salmon Kings Chums Cohos Salmon roe	2
Maserculiq Fish Processors Fortuna Ledge, AK 99585 (Marshall)	Fresh salmon Kings Chums Cohos Salmon Roe	2
Harry Turner Box 97 Holy Cross, AK 99602 (Paimiut)	Smoked salmon strips Kings	3
K & A Fisheries Aniak, AK 99557 (Russian Mission)	Fresh salmon Kings Chums Salmon Roe	3
Western Yukon Fisheries Box 131 St. Marys, AK 99658 (Pitkas Point)	Fresh salmon Kings Chums Cohos	1 & 2

Table 3. Yukon area processors and associated data, 1981.

Commercial operator (Processing location/buying station)	Product	District
Martin Seafoods 800 Ocean Dock Rd. Anchorage, AK 99501 (Pitkas Point)	Fresh salmon Kings Chums	2
Alakanuk Native Corp. Alakanuk Fisheries Box 89 Alakanuk, AK 99554 (Alakanuk)	Frozen salmon Chums Cohos	1
Clark Fishing Enterprises Box 517 Aniak, AK 99557 (Paimuit/Holy Cross)	Fresh salmon Kings Chums Salmon Roe	3
Grayling Air Service Grayling, Alaska 99590 (Grayling)	Fresh salmon Chums Salmon Roe	4
Ingalik Fisheries Anvik, AK 99558 (Anvik)	Fresh salmon Kings Salmon Roe	4
Walton Co. Inc. Anvik, AK 99558 (Anvik)	Salmon Roe	4
Huntington Fisheries Box 49 Galena, AK 99741 (Galena)	Fresh salmon Kings Chums Salmon Roe	4
McCann's Fish Box 133 Tanana, AK 99777 (Tanana)	Salmon Roe	4 & 5

Table 3. Yukon area processors and associated data, 1981.

Commercial operator (Processing location/buying station)	Product	District
Norton Sound Fisheries Cooperative Unalakleet, AK 99684	Salmon Roe	4
Alaska Sea Farm Products 3807 Greenland Anchorage, AK 99503	Salmon Roe	4
Nyquist Investments P. O. Box 10497 Fairbanks, AK	Fresh salmon Kings Chums Salmon Roe	5
Chena Marina Fish Co. SR Box 10407-B Fairbanks, AK 99701	Fresh salmon Kings Chums Salmon Roe	5
Catherine Ludecker 4-1/2 Mile Chena Pump Rd. Fairbanks, AK 99701	Fresh salmon Kings Chum Coho Salmon Roe	5 & 6
Yutana Fisheries 1625 Cottonwood Fairbanks, AK 99701	Frozen Salmon Kings Chums Coho Salmon Roe	5 & 6

Table 3. Yukon area processors and associated data, 1981.

Commercial operator (Processing location/buying station)	Product	District
Stevens Fisheries Box 38 Nenana, AK 99760 (Nenana)	Frozen salmon Kings Chums Cohos Salmon Roe	5 & 6
Nenana Reefer Box 26 Nenana, AK 99760 (Nenana)	Frozen salmon Kings Chums Salmon Roe	5 & 6

Table 6. Yukon Area Commercial Fisheries Entry Commission permits issued by residence, 1981.

District	Residence	Gillnet Permits 1/	Fishwheel Permits 1/
334-10,	Emmonak	104	
334-20,	Mountain Village	101	
and	Alakanuk	87	
334-30	Kotlik	79	
	St. Mary's	59	
	Marshall	47	
	Pilot Station	47	
	Scammon Bay	37	
	Sheldons Point	26	
	Russian Mission	20	
	Unalakleet	16	
	Holy Cross	14	
	Anchorage	11	
	Pitkas Point	8	
	Stebbins	8	
	Bethel	5	
	Fairbanks	3	
	Shaktoolik	3	
	Aniak	1	
	Nome	1	
	Eagle River	1	
	Wasilla	1	
	Palmer	1	
	Tuntutuliak	1	
	Sitka	1	
	Big Lake	1	
	Paxson	1	
	Hooper Bay	1	
	Delta Junction	1	
	Everett, WA	1	
	Redmond, WA	1	
	Puyallup, WA	1	
TOTAL LOWER YUKON		689	
334-40	Anvik	4	6
	Grayling	1	9
	Kaltag	4	9
	Nulato	0	17
	Koyukuk	0	3
	Galena	8	26
	Ruby	3	14
	Nenana	1	5
	Fairbanks	0	1
	Anchorage	1	4
Subtotal		22	94
334-50	Tanana	10	18
	Rampart	6	6
	Stevens Village	1	2
	Circle	2	1
	Ft. Yukon	0	1
	Eagle	2	0
	Anchorage	2	0
	Fairbanks	11	9
	Nenana	4	2
	Tok	1	2
	Manley	1	1
	Chugiak	1	0
	North Pole	0	1
Subtotal		41	43
334-60	Manley	1	4
	Nenana	5	19
	Fairbanks	3	13
	North Pole	0	1
	College	0	1
Subtotal		9	38
TOTAL UPPER YUKON AREA		72	175
GRAND TOTAL YUKON AREA		761	175

1/ Does not include transfers.

Table 4. Commercial salmon catches by species and district, Yukon area, 1981.

DISTRICT	Kings	Summer Chums	Fall Chums	Total Chums	Cohos	Total All Species
334-10						
King salmon season (6/6-6/19)	88,038	114,892	0	114,892	0	202,930
Fall or second season (6/22-8/18)	11,181	392,737	167,834	560,571	13,154	584,906
Total 334-10	99,219	507,629	167,834	675,463	13,154	787,836
334-20						
King salmon season (6/7-6/18)	37,660	49,087	0	49,087	0	86,747
Fall or second season (6/21-8/17)	7,642	302,371	154,883	457,254	7,837	472,733
Total 334-20	45,302	351,458	154,883	506,341	7,837	559,480
334-30						
King salmon season (6/15-6/16)	3,220	1,038	0	1,038	0	4,258
Fall or second season (6/22-8/19)	803	53,601	19,043	72,644	427	73,874
Total 334-30	4,023	54,639	19,043	73,682	427	78,132
TOTAL LOWER YUKON	148,544	913,726	341,760	1,255,486	21,418	1,425,448
334-40						
King salmon season (6/17-7/24)	1,347	243,536	0	243,536	0	244,885
Fall season (8/17-9/16)	0	0	19,447	19,447	0	19,447
Total 334-40	1,347	243,536	19,447	262,983	0	264,330
334-50						
King salmon season (6/16-7/1)	6,452	85	0	85	0	6,537
Fall season (8/19-8/31)	0	0	95,844	95,844	0	95,844
TOTAL 334-50	6,452	85	95,844	95,929	0	102,381
334-60						
King salmon season (6/19-8/5)	1,264	34,465	0	34,465	0	35,729
Fall season (9/12-9/17)	0	0	29,008	29,008	2,284	31,292
Total 334-60	1,264	34,465	29,008	63,473	2,284	67,021
TOTAL UPPER YUKON	9,063	278,086	144,299	422,385	2,284	433,732
GRAND TOTAL YUKON AREA	157,607	1,191,812	486,059	1,677,871	23,702	1,859,180

Table 5. Yukon area commercial salmon catches by statistical area, 1981.

Statistical Area	King Salmon Season 1/ King	King Salmon Season 1/ Chum	Fall Season 2/ King	Fall Season 2/ Chum	Fall Season 2/ Coho	Total King	Total Chum	Total Coho
334-11	6,100	19,090	122	6,353	0	6,222	25,443	0
12	10,778	39,306	2,114	167,989	3,218	12,892	207,295	3,218
13	2,602	4,135	304	22,578	783	2,906	26,713	783
14	8,133	6,118	922	69,441	1,555	9,055	75,559	1,555
15	16,845	12,143	2,926	80,225	3,977	19,771	92,368	3,977
16	13,151	8,876	2,131	42,870	5	15,282	51,746	5
17	20,128	18,867	2,004	123,806	2,702	22,132	142,673	2,702
18	10,301	6,357	578	47,309	914	10,879	53,666	914
Subtotal 334-10	88,038	114,892	11,181	560,571	13,154	99,219	675,463	13,154
334-21	10,953	7,990	948	67,610	2,233	11,901	75,600	2,233
22	9,222	20,334	4,135	194,685	4,257	13,357	215,019	4,257
23	5,545	8,371	1,520	81,178	1,027	7,065	89,549	1,027
24	5,134	6,963	774	71,565	251	5,908	78,528	251
25	6,806	5,429	265	42,216	69	7,071	47,645	69
Subtotal 334-20	37,660	49,087	7,642	457,254	7,837	45,302	506,341	7,837
334-31	883	554	358	35,211	172	1,241	35,765	172
334-32	2,337	484	445	37,433	255	2,782	37,917	255
Subtotal 334-30	3,220	1,038	803	72,644	427	4,023	73,682	427
TOTAL LOWER YUKON	128,918	165,017	19,626	1,090,469	21,418	148,544	1,255,486	21,418
334-41 3/	106	209,540	0	0	0	106	209,540	0
42	867	32,009	0	10,774	0	867	42,783	0
43	374	1,987	0	8,673	0	374	10,660	0
Subtotal 334-40	1,347	243,536	0	19,447	0	1,347	262,983	0
334-51	97	0	0	1,248	0	97	1,248	0
52	2,970	85	0	41,901	0	2,970	41,986	0
53	2,636	0	0	48,574	0	2,636	48,574	0
54	749	0	0	4,121	0	749	4,121	0
Subtotal 334-50	6,452	85	0	95,844	0	6,452	95,929	0
334-61	438	4,672	0	4,865	0	438	9,537	535
62	588	24,442	0	21,654	535	588	46,096	1,335
63	238	5,351	0	2,489	1,335	238	7,840	414
Subtotal 334-60	1,264	34,465	0	29,008	2,284	1,264	63,473	2,284
TOTAL UPPER YUKON	9,063	278,086	0	144,299	2,284	9,063	422,385	2,284
GRAND TOTAL YUKON AREA	137,981	443,103	19,626	1,234,768	23,702	157,607	1,677,871	23,702

1/ King Salmon Season

334-10 6/6-6/19
334-20 6/7-6/18
334-30 6/15-6/16
334-40 6/17-7/24

2/ Fall Season

334-10 6/22-8/10
334-20 6/21-8/17
334-30 6/22-8/19
334-40 8/09-9/12

3/ Season closes 8/1

Table 7. Commercial salmon catches, drift and set gill nets combined, district 334-10, Yukon area, 1981.

Date of Landing	Hours Fished	No. of Boats	Total catch (catch/boat hr.) King	Coho	Chum	Cumulative catch (cum. catch/boat hr.) King	Coho	Chum
6/5-6	24	311	11,117 (1.49)		2,049 (0.27)	11,117 (1.49)		2,049 (0.27)
6/8-9	24	351	15,615 (1.85)		6,252 (0.74)	26,732 (1.68)		8,301 (0.52)
6/11-12	24	370	14,483 (1.63)		29,417 (3.31)	41,215 (1.66)		37,718 (1.52)
6/15-16	24	390	18,304 (1.96)		14,001 (1.50)	59,519 (1.75)		51,719 (1.52)
6/18-19	24	396	28,519 (3.00)		63,173 (6.65)	88,038 (2.02)		114,892 (2.64)
Subtotal 1/	120	448	88,038 (2.02)		114,892 (2.64)			
6/22-23	24	323	4,157 (0.54)		34,895 (4.50)	4,157 (0.54)		34,895 (4.50)
6/25-26	24	378	2,901 (0.32)		136,978 (15.10)	7,058 (0.42)		171,873 (10.23)
6/29-30	24	264	1,550 (0.24)		60,306 (9.52)	8,608 (0.37)		232,179 (10.01)
7/2-3	24	334	1,178 (0.15)	1 (+)	64,488 (8.04)	9,786 (0.31)	1 (+)	296,667 (9.51)
7/6-7	24	296	661 (0.09)	1 (+)	45,450 (6.40)	10,447 (0.27)	2 (+)	342,117 (8.93)
7/9-10	24	290	342 (0.05)	1 (+)	30,715 (4.41)	10,789 (0.23)	3 (+)	372,832 (8.25)
7/13-14	24	241	186 (0.03)	4 (+)	19,905 (3.44)	10,975 (0.22)	7 (+)	392,737 (7.70)
7/16-17	24	264	97 (0.02)	15 (+)	32,300 (5.10)	11,072 (0.19)	22 (+)	425,037 (7.40)
7/20-21	24	191	42 (0.01)	1 (+)	5,955 (1.30)	11,114 (0.18)	23 (+)	430,992 (6.96)
7/23-24	24	67	14 (0.01)		1,339 (0.83)	11,128 (0.17)	23 (+)	432,331 (6.80)
7/27-28	24	287	29 (+)	74 (0.01)	57,285 (8.32)	11,157 (0.16)	97 (+)	489,616 (6.95)
7/30-31	24	254	18 (+)	64 (0.01)	23,289 (3.82)	11,175 (0.15)	161 (+)	512,905 (6.70)
8/13-14	24	251	4 (+)	8,312 (1.38)	43,671 (7.25)	11,179 (0.14)	8,473 (0.14)	556,576 (6.74)
8/17-18	24	166	2 (+)	4,681 (1.17)	3,995 (1.00)	11,181 (0.13)	13,154 (0.21)	560,571 (6.48)
Subtotal 2/	336	462	11,181 (0.13)	13,154 (0.21)	560,571 (6.48)			
Grand Total	456	507	99,219	13,154	675,463			

1/ King salmon season (6/6-6/19)
2/ Fall season (6/22-8/18)

Table 8. Commercial salmon catches, drift and set gill nets combined, district 334-20, Yukon area, 1981.

Date of Landing	Hours Fished	No. of Boats	Total catch (catch/boat hr.) King	Coho	Chum	Cumulative catch (cum. catch/boat hr.) King	Coho	Chum
6/7-8	24	188	7,590 (1.68)		2,272 (0.50)	7,590 (1.68)		2,272 (0.50)
6/10-11	24	204	11,426 (2.31)		6,935 (1.42)	19,016 (2.02)		9,207 (0.98)
6/14-15	24	217	10,449 (2.01)		27,998 (5.38)	29,465 (2.02)		37,205 (2.55)
6/17-18	24	205	8,195 (1.67)		11,882 (2.42)	37,660 (1.93)		49,087 (2.52)
Subtotal 1/	96	225	37,660 (1.93)		49,087 (2.52)			
6/21-22	24	196	2,391 (0.51)		116,349 (24.73)	2,391 (0.51)		116,349 (24.73)
6/24-25	24	182	2,118 (0.48)		41,693 (9.55)	4,509 (0.50)		158,042 (17.42)
6/28-29	24	152	988 (0.27)		54,084 (14.83)	5,497 (0.43)		212,126 (16.70)
7/1-2	24	152	1,206 (0.33)		35,141 (9.63)	6,703 (0.41)		247,267 (15.08)
7/5-6	24	128	358 (0.12)		20,643 (6.72)	7,061 (0.36)		267,910 (13.81)
7/8-9	24	92	174 (0.08)		9,227 (4.18)	7,235 (0.33)		277,137 (12.83)
7/12-13	24	107	132 (0.05)		12,235 (4.76)	7,367 (0.30)		289,372 (11.96)
7/15-16	24	117	137 (0.05)		12,999 (4.63)	7,504 (0.28)		302,371 (11.20)
7/19-20	24	156	72 (0.02)		31,359 (8.38)	7,576 (0.25)		333,730 (10.84)
7/22-23	24	107	40 (0.02)		10,444 (4.07)	7,616 (0.23)		344,174 (10.43)
7/26-27	24	32	5 (0.01)		2,591 (3.37)	7,621 (0.22)		346,765 (10.17)
7/29-30	24	183	18 (+)	10 (+)	61,571 (14.02)	7,639 (0.20)	10 (+)	408,336 (10.61)
8/12-13	24	159		1,611 (0.42)	18,629 (4.88)	7,639 (0.18)	1,621 (0.20)	426,965 (10.09)
8/16-17	24	170	3 (+)	6,216 (1.52)	30,289 (7.42)	7,642 (0.16)	7,837 (0.64)	457,254 (9.85)
Subtotal 2/	336	240	7,642 (0.16)	7,837 (0.64)	457,254 (9.85)			
Grand Total	432	257	45,302	7,837	506,341			

1/ King salmon season (6/7-6/18)

2/ Fall season (6/21-8/17)

Table 9. Commercial salmon catches, drift and set gill nets combined, district 334-30, Yukon area, 1981.

Date of Landing	Hours Fished	No. of Boats	Total catch (catch/boat hr.) King	Coho	Chum	Cumulative catch (cum. catch/boat hr.) King	Coho	Chum
6/15-16	24	23	3,220 (5.83)		1,038 (1.88)	3,220 (5.83)		1,038 (1.88)
Subtotal 1/	24	23	3,220 (5.83)		1,038 (1.88)			
6/22-23	12	19	223 (0.98)		9,435 (41.38)	223 (0.98)		9,435 (41.38)
6/25-26	12	19	195 (0.86)		13,361 (58.60)	418 (0.92)		22,796 (49.99)
6/29-7/1	36	18	211 (0.33)		15,291 (23.60)	629 (0.57)		38,087 (34.50)
7/2-4	36	16	173 (0.30)		15,514 (26.93)	802 (0.48)		53,601 (31.91)
8/3-5	36	16	1 (+)		9,882 (17.16)	803 (0.36)		63,483 (28.09)
8/13-15	36	13		128 (0.27)	3,148 (6.73)	803 (0.29)	128 (0.27)	66,631 (24.50)
8/17-19	36	15		299 (0.55)	6,013 (11.14)	803 (0.25)	427 (0.42)	72,644 (22.28)
Subtotal 2/	204	21		803 (0.25)	427 (0.42)		72,644 (22.28)	
Grand Total	224	26		4,023	427		73,682	

1/ King salmon season (6/15-6/16)
2/ Fall season (6/22-8/19)

Table 10. Commercial salmon catches, district 334-40, Yukon area, set gillnet and fishwheel catches combined, 1981.

Period	Fishermen	King	Chum	Coho
6/17-6/19	12	34	2,076	0
6/21-6/23	43	190	34,381	0
6/24-6/26	42	222	31,734	0
6/28-6/30	58	281	49,161	0
7/1-7/3	64	276	54,622	0
7/5-7/7	58	163	29,746	0
7/8-7/10	56	113	21,803	0
7/12-7/14	36	58	9,139	0
7/15-7/17	41	5	6,917	0
7/19-7/21	24	5	2,764	0
7/22-7/24	20	0	1,193	0
King Salmon Season Subtotal [1/]	80	1,347	243,536	0
8/9-8/11	10	0	1,612	0
8/12-8/14	14	0	4,258	0
8/16-8/18	18	0	5,651	0
8/19-8/21	25	0	5,084	0
8/23-8/25	15	0	1,580	0
8/26-8/28	1	0	595	0
9/2-9/4	1	0	667	0
Fall Season Subtotal [2/]	30	0	19,447	0
Total	94	1,347	262,983	0

1/ King season 6/17-7/24.
2/ Fall season 6/9-9/12.

Table 11. Commercial salmon catches, district 334-50, Yukon area, set gillnet and fishwheel catches combined, 1981.

Period	Fishermen	King	Chum	Coho
6/16-6/18	14	260	0	0
6/19-6/21	22	852	0	0
6/23-6/25	27	1,593	0	0
6/26-6/28	28	1,896	0	0
6/29-7/1[1]/	26	1,101	85	0
6/28-7/4	4	88	0	0
7/5-7/11	3	207	0	0
7/12-7/18	5	358	0	0
7/19-7/24[2]/	3	96	0	0
King Salmon Season Subtotal	43	6,452	85	0
8/14-8/16	27	0	10,441	0
8/18-8/20	35	0	20,818	0
8/21-8/23	37	0	26,947	0
8/25-8/27	33	0	23,768	0
8/28-8/29[3]/	25	0	12,764	0
9/30-9/3[4]/	1	0	1,106	0
Fall Season Subtotal	50	0	95,844	0
Total	56	6,452	95,929	0

1/ King salmon season closed 7/1 in subdistricts 334-51, 334-52, and 334-53.
2/ King season closed 7/24 in subdistrict 334-54.
3/ Fall season closed 8/29 in subdistricts 334-51, 334-52, and 334-53.
4/ Fall season closed 9/3 in subdistrict 334-54.

Table 12. Commercial salmon catches, district 334-60, Yukon area, set gillnet and fishwheel catches combined, 1981.

Period	Fishermen	King	Chum	Coho
6/19-6/21	1	11	0	0
6/23-6/25	2	43	0	0
6/26-6/28	2	45	33	0
6/29-7/1	6	44	52	0
7/3-7/5	3	48	171	0
7/6-7/8	11	253	667	0
7/10-7/12	16	335	2,353	0
7/13-7/15	18	205	4,379	0
7/17-7/19	21	124	6,828	0
7/20-7/22	22	78	7,303	0
7/24-7/26	17	58	6,154	0
7/27-7/29	17	20	3,664	0
7/31-8/2	19	0	2,257	0
8/3-8/5	11	0	604	0
King Salmon Season Subtotal [1/]	26	1,264	34,465	0
9/14-9/16	30	0	14,673	1,084
9/18-9/20	30	0	14,335	1,200
Fall Season Subtotal [2/]	30	0	29,008	2,284
Total	36	1,264	63,473	2,284

1/ King salmon season 6/19-8/7.
2/ Fall season 9/14-9/20.

Table 13. Salmon roe sales, upper Yukon area, 1981.

Statistical Area		King Salmon Season		Fall Season		Total
		King	Chum[2/]	King	Chum[3/]	
	334-41	0	160,757	0	0	160,757
	334-42	0	23,677	0	1,311	24,988
	334-43	0	1,424	0	1,174	2,598
Total	334-40	0	185,858	0	2,485	188,343
	334-51	0	0	0	178	178
	334-52	33	49	0	6,760	6,842
	334-53	221	0	0	17	238
	334-54	0	0	0	0	0
Total	334-50	254	49	0	6,955	7,258
	334-61	0	0	0	0	0
	334-62	395	925	0	2,784	4,104
	334-63	184	1,062	0	235	1,481
Total	334-60	579	1,987	0	3,019	5,585
Total		833	187,894	0	12,459	201,186

1/ All figures in pounds of unprocessed product.
2/ Includes some king salmon roe.
3/ Includes some coho salmon roe.

Table 14. Yukon River subsistence salmon catch data, 1981 [1/].

Village	Survey Date	Fishing Families	Dogs [2/]	Snow Machines [2/]	Kings	Summer [3/] Chums	Fall Chums	Cohos	Subtotal Chums & Cohos	Total Salmon	Whitefish/ Sheefish	8-1/2" Nets	6" Nets	Fishwheels
Sheldons Pt.	8/30	15	53	25	163	2,495	490	215	3,200	3,363	30/32			
Alakanuk	8/26	60	168	99	423	2,263	4,913	508	7,684	8,107	792/681			
Emmonak	9/1	58	145	102	1,021	4,907	4,375	1,295	10,577	11,598	336/48			
Kotlik	8/25	42	125	50	675	1,645	5,762	1,751	9,158	9,833	116/856			
Subtotal		175	491	276	2,282	11,310	15,540	3,769	30,619	32,901	1,274/856			
Mt. Village	9/5	55	176	86	811	3,383	3,794	1,055	8,232	9,043	395/88			
Pitkas Pt.	9/6	10	32	9	312	586	319	306	1,211	1,523	397/109			
St. Marys	9/14	34	117	34	1,068	4,113	3,003	877	7,993	9,061	476/190			
Pilot Station	9/7	32	95	32	399	2,859	1,764	431	5,054	5,453	811/107			
Marshall	9/8	32	173	64	990	3,277	2,890	1,067	7,234	8,224	670/219			
Subtotal		163	593	225	3,580	14,218	11,770	3,736	29,724	33,304	2,749/713			
Russian Mission	9/9	21	55	31	1,689	2,628	497	434	3,559	5,248	309/268			
Holy Cross	9/10	22	87	29	2,312	2,301	2,396	56	4,753	7,065	414/73			
Subtotal		43	142	60	4,001	4,929	2,893	490	8,312	12,313	723/341			
Lower Yukon Totals		381	1,226	561	9,863	30,457	30,203	7,995	68,655	78,518	4,746/1,910			
Anvik	9/11-12	13	102	13	191	26,588	2,167	385	29,140	29,331	135/14	4	8	7
Grayling	9/12	18	179	25	222	15,836	890	172	16,898	17,120	365/7	5	8	8
Kaltag	9/21	17	251	16	179	28,121	2,329	102	30,552	30,731	465/46	7	9	9
Nulato	9/21	21	194	27	1,117	7,534	621	140	8,295	9,412	706/114	14	9	8
Koyukuk	9/19	11	117	11	541	11,788	700	142	12,630	13,171	996/106	4	8	4
Galena	9/18	25	154	34	570	15,089	3,142	333	18,564	19,134	4,443/183	12	13	11
Ruby	9/16	19	306	23	964	5,542	7,984	746	14,272	15,236	2,598/79	4	13	13
Subtotal		124	1,303	149	3,784	110,498	17,833	2,020	130,351	134,135	9,708/549	50	68	60
Tanana	10/8	37	491	30	2,517	7,873	30,820	1,373	40,066	42,583	17,528/2,732	17	16	31
Rampart	10/9	15	195	11	488	1,946	5,370	169	7,485	7,973	263/143	6	2	11
Fbks. Fishcamp [4/] [5/]		24 [6/]	--	--	1,095	4,501	7,527	6	12,034	13,129	2,219/384	--	--	5
Stevens Village	10/9	12	145	10	1,292	2,576	8,356	95	11,027	12,319	155/80	6	10	6
Beaver	10/9	6	30	6	552	146	735	0	881	1,433	131/9	2	3	0
Ft. Yukon	10/9-10	31	438	19	2,794	8,149	16,143	70	24,362	27,156	1,330/147	9	9	26
Circle	10/10	16	116	12	728	2,009	5,219	0	7,228	7,956	154/5	2	2	14
Eagle	10/10-11	60	230	41	3,782	108	30,997	0	31,105	34,887	419/303	28	23	11
Subtotal		201	1,645	129	13,248	27,308	105,167	1,713	134,188	147,436	22,199/3,803	70	65	104
Main River Totals		706	4,174	839	26,895	168,263	153,253	11,728	333,194	360,089	36,653/6,262	120	133	164

Table 14. Yukon River subsistence salmon catch data, 1981 (continued).

Village	Survey Date	Fishing Families	Dogs[2]	Snow Machines[2]	Kings	Summer[3] Chums	Fall Chums	Cohos	Subtotal Chums & Cohos	Total Salmon	Whitefish/ Sheefish	8-1/2" Nets	6" Nets	Fishwheels
Huslia	9/23	17	181	26	61	12,550	119	146	12,815	12,876	1,358/300	4	16	0
Hughes	9/23	13	139	15	402	6,196	611	42	6,849	7,251	683/80	0	14	0
Alatna	9/24	1	18	2	0	293	0	11	304	304	24/41	0	1	0
Allakaket	9/24	18	139	20	185	7,534	1,410	20	8,964	9,149	790/648	5	20	0
Koyukuk River Totals		49	477	63	648	26,573	2,140	219	28,932	29,580	2,855/1,069	9	51	0
Shageluk[5]		8	75	8	10	2,501	150	20	2,671	2,681	904/110	1	9	0
Innoko River Totals		8	75	8	10	2,501	150	20	2,671	2,681	904/110	1	9	0
Venetie	10/10	13	146	22	52	0	6,400	0	6,400	6,452	390/0	3	13	0
Chandalar River Totals		13	146	22	52	0	6,400	0	6,400	6,452	390/0	3	13	0
Manley	10/5	17	320	6	367	2,972	9,419	3,723	16,114	16,481	906/26	5	8	10
Minto	10/6	10	188	3	344	367	3,182	267	3,816	4,160	162/4	0	6	7
Nenana	10/14	28	327	17	974	4,369	10,176	3,356	17,901	18,875	941/71	6	11	17
Fairbanks[1]	[5]	220[8]	--	--	400	3,239	3,855	1,915	9,009	9,409	53/9	--	--	9
Tanana River Totals		283	835	26	2,085	10,947	26,632	9,261	46,840	48,925	2,062/110	11	25	43
Subtotals Upper Yukon (Alaska)		678	4,481	397	19,827	177,827	158,322	13,233	349,382	369,209	38,118/5,641	144	231	207
Totals Yukon River Drainage (Alaska)		1,059	5,707	958	29,690	208,284	188,525	21,228	418,037	447,727	42,864/7,551			
Yukon Territory Totals[9]														
Old Crow	10/?				100		3,000	500	3,500	3,600				
Porcupine River Totals					100		3,000	500	3,500	3,600				
Dawson[10]					8,744		3,829	--	3,829	12,573				
Yukon Territory Totals					8,844		6,829	500	7,329	16,173				
Grand Total Yukon River Drainage		1,059	5,707	958	38,534	208,284	195,354	21,728	425,366	463,900	42,864/7,551	144	231	207

Table 14. Yukon River subsistence salmon catch data, 1981 (continued).

1/ Catch data expanded.
2/ Data from fishing families only.
3/ Includes small numbers of pinks in districts 1-4.
4/ Data from fishermen who fished between Hess Creek and Dall River.
5/ Survey conducted by mail, October-December.
6/ 57 permits issued: 48 to nonlocal residents (24 of whom fished, 13 did not fish, 11 did not report).
7/ Data from fishermen who fished in the Tanana River between Wood River and the Salcha River.
8/ 346 permits issued: 228 fishermen fished, 93 did not fish, 25 did not report.
9/ Data from Environment Canada Fisheries Service (Whitehorse).
10/ Domestic and Indian food fishery totals (includes Pelly Crossing, Carmacks, Stewart River, Ross River, and Dawson).

Table 15. Aerial survey salmon escapement estimates, [1] Yukon River drainage, 1981.

Stream (Drainage)	Date	Survey Rating	Kings	Cohos	Summer Chums	Fall Chums	Reds	Pinks
Andreafsky River								
West Fork	8/4	Poor	231	-	-	-	-	
East Fork	7/23 & 9/17	Fair-Poor	(2,146)	1,657	(81,555)	-	-	1,475
Sonar Count[2] East Fork	6/23-7/23		5,343	-	147,312	-	-	-
Innoko River Drainage[3] [4]	6/14-10/2		1	120	27	-	1	-
Anvik River Drainage								
Above Sonar Site	7/24	Fair-Poor	(807)	-	(518,085)	-	-	-
Sonar Count[2]	6/20-7/27		2,306	-	1,479,582	-	-	-
Below Sonar Site	7/24	Fair-Poor	-	-	6,600	-	-	-
Nulato River								
South Fork	7/21	Fair	791	-	14,348	-	-	-
Melozitna River Drainage								
Sonar Count[2] [9]	7/3-7/26		-	-	19,707		-	-
Tanana River Drainage								
Kantishna R. Drainage								
Toklat River								
Upper Mainstem	10/20	Good		-	-	3,172	-	-
Shushana Cr.	10/20	Good		-	-	7,600	-	-
Geiger Cr.	10/20	Good		-	-	3,135	-	-
Subtotal						13,907		
Nenana River								
Lost Slough	10/20	Good		274	-	-	-	-
Seventeen Mile Slough	10/20	Good		1,005	-	-	-	-
Julius Cr.[5]	11/6	Good		170	-			
Chena River	8/10	Poor	600	-	3,500	-	-	-
Salcha River	8/6&8/10	Fair	1,237	-	8,500	-	-	-
Upper Tanana R. Drainage								
Benchmark #735 Slough	11/2	Poor	-	-	-	168	-	-
Richardson Clearwater	10/8	Fair	-	550	-	-	-	-
Unnamed Slough 2-3 miles down-Stream Delta R.	11/2	Fair	-	-	-	1,355	-	-
Delta River [5]	11/3	Good	-	-	-	22,375	-	-
Tanana R. (Bridge to island)	11/2	Fair	-	-	-	7,063	-	-
Bluff Cabin Slough	11/4	Fair	-	-	-	6,120	-	-
Clearwater Lake & Outlet	11/2	Poor	-	459	-	-	-	-
Clearwater Lake & Outlet Slough	10/8	Fair	-	-	-	1,780	-	-
One Mile Slough	10/8	Fair	-	-	-	632	-	-
Delta Clear-water R.[4] [6] [7]	10/21		-	8,563	-	-	-	-
Subtotal Upper Tanana River Drainage			-	9,572	-	39,493	-	-
Total Tanana R. Drainage			1,837	11,021	12,000	53,400	-	-

Table 15. Aerial survey salmon escapement estimates, 1/ Yukon River drainage, 1981.

Stream (Drainage)	Date	Survey Rating	Kings	Cohos	Summer Chums	Fall Chums	Reds	Pinks
Chandalar River	9/11	Poor	-	-	-	4,906	-	-
Porcupine River Drainage								
Sheenjek River	9/10	Poor	-	-	-	(12,625)	-	-
Sonar Count 2/	8/31-9/24		-	-	-	69,043	-	-
Fishing Branch R. (Y.T.) 8/	10/6	Poor	-	-	-	10,549	-	-
Miner River (Y.T.) 8/	10/6		-	-	-	2	-	-
						79,594		
Yukon Territory Streams								
Klondike River	8/20	Poor	1	-	-	-	-	-
Nisutlin River	8/11&13	Fair	2,639	-	-	-	-	-
Teslin River 8/	8/23	Poor	45	-	-	-	-	-
Wolf River	8/11	Fair-Poor	502	-	-	-	-	-
Kluane River System 10/			-	-	-	26,000	-	-
Morley River	8/14	Fair	329	-	-	-	-	-
Swift River	8/14	Fair-Poor	302	-	-	-	-	-
Jennings River	8/14	Poor	211	-	-	-	-	-
Gladys River	8/14	Fair	51	-	-	-	-	-
Big Salmon R. drainage	8/12	Good-Poor	2,573	-	-	-	-	-
Little Salmon R	8/12	Fair	670	-	-	-	-	-
Hoole River	8/15	Fair	133	-	-	-	-	-
Pelly Lake outlet	8/15	Fair	67	-	-	-	-	-
Pelly R. (Earn Creek-Tunnel Creek)8/	8/20	Poor	6	-	-	-	-	-
Ross River drainage	8/15	Fair	972	-	-	-	-	-
MacMillan R.8/	8/20	Poor	9	-	-	-	-	-
Russel Cr. 6/8/	8/20	poor	11	-	-	-	-	-
McQuestern R.8/	8/20		2	-	-	-	-	-
N. McQuestern R. 8/	8/20		1	-	-	-	-	-
Takhini R. 8/	8/25		752	-	-	-	-	-
Tatchun Creek5/8/	8/15		133	-	-	-	-	-
Lapie River	8/4		4	-	-	-	-	-
Whitehorse Dam Fishway	7/4-8/29		1,539	-	-	-	-	-
	Subtotal		10,977					
TOTAL YUKON RIVER DRAINAGE			21,486	12,798	1,679,576	177,807	1	1,475

1/ Only peak estimates listed, carcasses omcluded (data in parentheses not included in subtotals)
2/ Side scan sonar estimates
3/ Test net catches
4/ Survey by Sport Fish Division
5/ Foot survey
6/ Boat survey
7/ Population estimate
8/ Survey by Environment Canada - Fisheries Service (Whitehorse)
9/ Sonar estimate was a partial river count after peak of run.
10/ Survey by Foothills Pipeline Ltd. - Gas Pipeline studies. Preliminary data.

Appendix Table 1. Yukon River drainage commercial and subsistence salmon catches, 1903-1981

Commercial Catch

YEAR	Alaska KING	Alaska COHO	Alaska CHUM	Alaska TOTAL	Yukon Territory KING	Yukon Territory CHUM	Yukon Territory TOTAL	Total KING	Total COHO	Total CHUM	Total TOTAL
1903							4,666 8/				4,666
1904											
1905											
1906											
1907											
1908							7,000				7,000
1909							9,238				9,238
1910											
1911											
1912											
1913							12,133				12,133
1914							12,673				12,673
1915							10,466				10,466
1916							9,566				9,566
1917											
1918	12,239	26,144	73,921	112,304			7,066	12,239	26,144	73,921	119,370
1919	104,822	37,070	327,898	469,790			1,800	104,822	37,070	327,898	471,590
1920	58,467		155,655	214,122			12,000	58,467		155,655	226,122
1921	69,646	1,000	111,098	181,744			10,840	69,646	1,000	111,098	192,584
1922	16,825			16,825			2,420	16,825			19,245
1923	13,393			13,393			1,833	13,393			15,226
1924	27,375			27,375			4,560	27,375			31,935
1925							3,900				3,900
1926							4,373				4,373
1927							5,366				5,366
1928							5,733				5,733
1929							5,226				5,226
1930							3,660				3,660
1931							3,473				3,473
1932	4,739			4,739			4,200	4,739			8,939
1933	8,829			8,829			3,333	8,829			12,162
1934	25,365			25,365			2,000	25,365			27,365
1935	7,265			7,265			3,466	7,265			10,731
1936	20,963			20,963			3,400	20,963			24,363
1937	6,226			6,226			3,746	6,226			9,972
1938	13,727			13,727			860	13,727			14,587
1939	9,987			9,987			720	9,987			10,707
1940	18,053			18,053			1,153	18,053			19,206
1941	29,905			29,905			2,806	29,905			32,711
1942	22,487			22,487			713	22,487			23,200
1943	27,650			27,650			609	27,650			28,259
1944	14,232			14,232			984	14,232			15,216
1945	19,727			19,727			1,333	19,727			21,060
1946	22,782			22,782			353	22,782			23,135
1947	54,026			54,026			120	54,026			54,146
1948	33,842			33,842				33,842			33,842
1949	36,379			36,379				36,379			36,379
1950	41,808			41,808				41,808			41,808
1951 3/	56,278			56,278				56,278			56,278
1952	38,637	10,868		49,505				38,637	10,868		49,505
1953	58,859		6,977	64,836				58,859		6,977	64,836
1954	64,545		14,376 4/	78,920				64,545		14,376	78,920
1955	55,925			55,925				55,925			55,925
1956	62,208	1	10,742 5/	72,951				62,208	1	10,742	72,951
1957	63,623			63,623				63,623			63,623
1958	63,375			63,375	3,000	1,600	4,600 7/	66,735		1,600	68,235
1959	78,370			78,370	2,477	1,099	3,576	80,847		1,099	81,945
1960 6/	67,597			67,597	4,085	6,493	10,578	71,682		6,493	78,175
1961	120,260	2,855	42,577 5/	165,692	3,446	3,278	6,724	123,706	2,855	45,855	172,416
1962	94,734	22,926	53,160 5/	170,820	4,037	936	4,973	98,771	22,926	54,096	175,793
1963	116,994	5,672 5/		122,666	2,283	2,192	4,475	119,277	5,672	2,192	127,141
1964	93,587	2,446	8,347	104,380	3,208	1,929	5,137	96,795	2,446	10,276	109,517
1965	118,098	350	23,317	141,765	2,265	2,071	4,336	120,363	350	25,388	146,101
1966	93,315	19,254	71,045 5/	183,614	1,942	3,157	5,099	95,257	19,254	74,202	188,713
1967	129,706	11,047	49,451 5/	190,205	2,187	3,343	5,530	131,893	11,047	52,794	195,736
1968	106,526	13,303	67,395 5/	187,224	2,212	435	2,647	108,738	13,303	67,830	189,871
1969	90,223	14,981	191,860	297,064	1,640	2,279	3,919	91,863	14,981	194,139	300,983
1970	80,269	12,245	356,724 5/	449,238	2,611	2,479	5,090	82,880	12,245	359,203	454,328
1971	130,507	12,203	289,684 5/	412,394	3,178	1,761	4,939	133,685	12,203	291,445	417,333
1972	92,840	22,233	287,844	402,917	1,769	2,532	4,301	94,609	22,233	290,376	407,218
1973	75,353	35,641	518,035 4/	629,029	1,871	2,228	4,099	77,224	35,641	520,263	634,128
1974	97,919	16,240	879,243	993,402	2,214	3,010	5,224	100,133	16,240	882,253	998,626
1975	63,740	2,346	984,859	1,050,945	3,000	2,500	5,500	66,740	2,346	987,359	1,056,445
1976	88,671	5,197	761,509	855,377	3,500	1,000	4,500	92,171	5,197	762,509	859,877
1977	96,414	37,705	797,697	931,816	4,620	3,990	8,610	101,034	37,705	801,687	940,426
1978	97,602	26,960	1,288,829	1,412,391	2,975	3,356	6,331	100,577	26,960	1,292,185	1,418,722
1979	129,056	17,110	1,165,900	1,312,166	6,175	9,084	15,259	135,231	17,110	1,175,064	1,327,405
1980	155,088	8,741	1,355,004	1,519,713	9,500	9,000	18,500	164,588	8,741	1,364,004	1,538,213
1981	157,607	23,702	1,677,871	1,859,180	8,593	15,260	23,853	166,200	23,702	1,693,131	1,883,033

Subsistence Catch

YEAR	Alaska 1/ KING	Alaska 1/ OTHER SALMON 2/	Alaska 1/ TOTAL	Yukon Territory KING	Yukon Territory OTHER SALMON	Yukon Territory TOTAL	Totals KING	Totals OTHER SALMON	Totals TOTAL
1918		1,400,000	1,400,000					1,400,000	1,400,000
1919		269,000	269,000					269,000	269,000
1920	20,000	860,000	880,000				20,000	860,000	880,000
1922	15,000	330,000	345,000				15,000	330,000	345,000
1923	17,500	435,000	452,500				17,500	435,000	452,500
1924		1,130,000	1,130,000					1,130,000	1,130,000
1925	15,000	259,000	274,000				15,000	259,000	274,000
1926	20,500	555,000	575,500				20,500	555,000	575,500
1927		520,000	520,000					520,000	520,000
1928		670,000	670,000					670,000	670,000
1929		537,000	537,000					537,000	537,000
1930		633,000	633,000					633,000	633,000
1931	26,693	565,000	591,693				26,693	565,000	591,693
1932	23,160	1,092,000	1,115,160				23,160	1,092,000	1,115,160
1933	19,950	603,000	622,950				19,950	603,000	622,950
1934		474,000	474,000					474,000	474,000
1935	20,400	537,000	557,400				20,400	537,000	557,400
1936	22,750	560,000	582,750				22,750	560,000	582,750
1937	5,928	346,000	351,928				5,928	346,000	351,928
1938	19,244	340,450	359,694				19,244	340,450	359,694
1939	18,050	327,650	345,700				18,050	327,650	345,700
1940	14,400	1,029,000	1,043,400				14,400	1,029,000	1,043,400
1941	17,703	438,000	455,703				17,703	438,000	455,703
1942		197,000	197,000					197,000	197,000
1943		200,000	200,000					200,000	200,000
1953		380,000	380,000					380,000	380,000
1958	11,890	337,500	349,390	8,000		8,000	19,890	337,500	357,390
1959				5,957	2,000 7/	7,957	5,957	2,000	7,957
1960				6,965	7,429	14,394	6,965	7,429	14,394
1961	21,488	407,089	428,577	10,376	5,600	15,976	31,864	412,689	444,553
1962	11,110	349,141	360,251	10,606	9,300	19,906	21,716	358,441	380,157
1963	24,882	396,128	420,987	8,100	25,600	33,600	32,978	421,616	454,596
1964	16,231	481,440	497,671	4,446	4,181	8,627	20,677	485,621	506,298
1965	16,804	449,131	461,738	3,318	9,600	12,916	19,783	458,931	478,654
1966	11,878	206,011	217,889	2,708	8,600	11,300	14,278	214,611	228,883
1967	16,448	274,977	291,416	3,213	13,600	16,813	19,661	288,577	308,238
1968	12,108	178,505	190,613	2,900	11,100	14,000	15,008	189,605	204,613
1969	14,000	208,254	222,254	1,000	5,500	6,500	15,000	213,754	228,754
1970	13,874	222,005	235,879	3,100	1,200	3,300	16,974	229,206	239,179
1971	25,684	228,649	254,333	2,800	14,000	16,800	28,040	228,749	264,793
1972	20,258	144,008	164,266	1,447	8,000	9,447	21,868	151,008	172,876
1973	24,317	214,682	238,999	1,116	6,938	9,054	26,433	221,620	240,053
1974	19,964	321,587	341,551	3,118	8,636	12,015	23,343	330,223	353,566
1975	13,045	298,479	311,524	3,000	18,100	21,100	16,045	311,979	327,624
1976	17,806	259,199	277,005	1,523	3,425	4,948	19,329	262,624	281,953
1977	17,581	258,606	274,147	2,807	8,521	11,328	20,388	267,127	287,515
1978	27,391	293,581	320,972	2,906	6,210	9,116	30,297	299,791	330,088
1979	31,005	439,328	470,333	4,200	13,000	17,200	35,205	452,328	487,533
1980	42,724	465,213	507,937	15,600	14,500	30,000	58,224	479,713	537,937
1981	29,690	418,037	447,727	8,844	7,329	16,173	38,534	425,366	463,900

Total Utilization

YEAR	Alaska KING	Alaska OTHER SALMON	Alaska TOTAL	Yukon Territory KING	Yukon Territory OTHER SALMON	Yukon Territory TOTAL	Total KING	Total OTHER SALMON	Total TOTAL
1903						4,666			4,666
1908						7,000			7,000
1909						9,238			9,238
1913						12,133			12,133
1914						12,673			12,673
1915						10,466			10,466
1916						9,566			9,566
1918	12,239	1,500,066	1,512,304			7,066	12,239	1,500,066	1,519,370
1919	104,822	738,790				1,800	104,822	740,590	845,412
1920	78,467	1,015,655	1,094,122			12,000	78,467	1,015,655	1,106,122
1921	69,646	112,098	181,744			10,840	69,646	112,098	192,584
1922	31,825	330,000	361,825			2,420	31,825	330,000	364,245
1923	30,893	435,000	465,893			1,833	30,893	435,000	467,726
1924	27,375	1,130,000	1,157,375			4,560	27,375	1,130,000	1,161,935
1925	15,000	259,000	274,000			3,900	15,000	259,000	277,900
1926	20,500	555,000	575,500			4,373	20,500	555,000	579,873
1927		520,000	520,000			5,366		520,000	525,366
1928		670,000	670,000			5,733		670,000	675,733
1929		537,000	537,000			5,226		537,000	542,226
1930		633,000	633,000			3,660		633,000	636,660
1931	26,693	565,000	591,693			3,473	26,693	565,000	595,166
1932	27,899	1,092,000	1,119,899			4,200	27,899	1,092,000	1,124,099
1933	28,779	603,000	631,779			3,333	28,779	603,000	635,112
1934	23,365	474,000	497,365			2,000	23,365	474,000	499,365
1935	27,665	537,000	564,665			3,466	27,665	537,000	568,131
1936	43,713	560,000	603,713			3,400	43,713	560,000	607,113
1937	12,154	346,000	358,154			3,746	12,154	346,000	361,900
1938	32,971	340,450	373,421			860	32,971	340,450	374,281
1939	28,037	327,650	355,687			720	28,037	327,650	356,407
1940	32,453	1,029,000	1,061,453			1,153	32,453	1,029,000	1,062,606
1941	47,608	438,000	485,608			2,806	47,608	438,000	488,414
1942	22,487	197,000	219,487			713	22,487	197,000	220,200
1943	27,650	200,000	227,650			609	27,650	200,000	228,259
1944	14,232		14,232			984	14,232		15,216
1945	19,727		19,727			1,333	19,727		21,060
1946	22,782		22,782			353	22,782		23,135
1947	54,026		54,026			120	54,026		54,146
1948	33,842		33,842				33,842		33,842
1949	36,379		36,379				36,379		36,379
1950	41,808		41,808				41,808		41,808
1951	56,278		56,278				56,278		56,278
1952	38,637	10,868	49,505				38,637	10,868	49,505
1953	58,859	385,977	444,836				58,859	385,977	444,836
1954	64,545	14,376	78,920				64,545	14,376	78,920
1955	55,925		55,925				55,925		55,925
1956	62,208	10,743	72,951				62,208	10,743	72,951
1957	63,623		63,623				63,623		63,623
1958	75,625	337,500	413,125	11,000	1,500	12,500	86,625	339,000	425,625
1959	78,370		78,370	8,434	3,098	11,532	86,804	3,098	89,902
1960	67,597		67,597	11,050	13,922	24,972	78,647	13,922	92,569
1961	141,748	452,521	594,269	13,822	8,078	22,900	155,570	461,599	617,169
1962	105,844	425,221	531,071	14,637	10,236	24,873	120,381	435,463	555,844
1963	141,856	401,697	543,553	10,391	27,692	38,083	152,247	429,389	581,636
1964	109,818	492,233	602,061	9,854	6,110	15,904	119,672	498,343	618,015
1965	134,708	472,790	607,404	5,380	11,871	17,251	140,088	484,669	624,755
1966	104,887	296,310	401,197	4,642	11,757	16,399	109,529	308,067	417,596
1967	146,154	336,477	481,631	5,400	16,943	22,343	151,654	352,420	503,974
1968	118,632	259,205	377,837	5,112	11,535	16,647	123,744	270,740	394,484
1969	104,223	416,095	519,318	2,640	7,779	10,419	106,863	422,874	529,737
1970	94,143	580,974	676,117	4,711	3,679	8,390	98,854	584,653	683,507
1971	136,191	530,536	666,727	5,978	15,761	21,739	142,169	546,297	688,466
1972	113,098	454,085	567,183	3,426	10,532	13,958	116,524	464,617	581,141
1973	99,670	769,358	869,028	3,987	9,166	13,153	103,657	778,524	882,181
1974	117,883	1,217,070	1,334,953	5,593	11,646	17,239	123,476	1,228,716	1,352,192
1975	76,785	1,285,684	1,362,469	6,000	20,600	26,600	82,785	1,306,284	1,389,069
1976	106,477	1,025,905	1,132,382	5,000	4,425	9,425	111,477	1,030,330	1,141,807
1977	113,995	1,094,008	1,208,003	7,427	12,511	19,938	121,422	1,106,519	1,227,941
1978	124,993	1,608,370	1,733,363	5,881	9,566	15,447	130,874	1,617,936	1,748,810
1979	160,061	1,622,418	1,782,479	10,375	22,084	32,459	170,436	1,644,502	1,814,938
1980	197,812	1,829,838	2,027,650	25,000	23,500	48,500	222,812	1,853,338	2,076,150
1981	187,297	2,119,610	2,306,907	17,437	22,589	40,026	204,734	2,142,199	2,346,933

1/ Does not include subsistence catches from the villages outside of the Yukon River mouth.
2/ Mostly chum salmon, but includes small numbers of pink and coho salmon.
3/ Data source for Alaska commercial catches: USFWS Stat. Digest No. 50 for the years 1951-59, unless otherwise indicated.
4/ Data source: Alaska Fisheries and Fur-Seal Industry Report for 1964. 5/ Includes small numbers of pink or red salmon (less than 300)
6/ Data source for Alaska commercial catches: ADF&G Stat. Leaflets for years since 1960.
7/ Data source: Environment Canada, Fisheries Service (Whitehorse) since 1958.
8/ Catch data for years 1903-1947 obtained by dividing total poundage of mixed salmon by an arbitrary weight of 16 lbs. Species breakdown is unknown. Figures are considered conservative (data collected by Royal Canadian Mounted Police).

Appendix Table 2. Commercial salmon catches by species and districts, Yukon area, 1960-1981

KING SALMON

Year	Lower Yukon Area 334-10	334-20	334-30	Subtotals	Upper Yukon Area 334-40	334-50	334-60	Subtotals	Totals
1960	50,713	15,994	-	66,707	-	-	-	884	67,591
1961	84,463	29,028	4,965	118,456	-	-	-	1,804	120,260
1962	67,099	22,224	4,687	94,010	-	-	-	724	94,734
1963	85,004	24,211	6,976	116,191	-	-	-	803	116,994
1964	67,555	20,246	4,705	92,506	-	-	-	1,081	93,587
1965	89,268	23,763	3,204	116,235	-	-	-	1,863	118,098
1966	70,788	16,927	3,612	91,327	-	-	-	1,988	93,315
1967	104,350	20,289	3,618	128,257	-	-	-	1,449	129,706
1968	79,465	21,392	4,543	105,400	-	-	-	1,126	106,526
1969	70,862	14,799	3,577	89,238	-	-	-	985	90,223
1970	57,681	17,210	3,712	78,603	-	-	-	1,666	80,269
1971	86,042	19,226	3,490	108,758	-	-	-	1,749	110,507
1972	70,052	17,855	3,841	91,748	-	-	-	1,092	92,840
1973	56,981	13,859	3,204	74,044	-	-	-	1,309	75,353
1974	71,680	17,947	3,471	93,098	685	2,663	1,457	4,805	97,903
1975	44,585	11,187	4,207	59,979	389	2,872	500	3,761	63,740
1976	62,632	17,413	4,239	84,284	385	2,900	1,102	4,387	88,671
1977	69,456	16,781	3,943	90,180	959	4,267	1,008	6,234	96,414
1978	57,890	32,335	2,917	93,142	701	3,115	644	4,460	97,602
1979	76,269	41,357	5,108	122,734	1,969	3,520	833	6,322	129,056
1980	90,089	50,824	5,240	146,153	1,521	5,338	2,076	8,935	155,088
1981	99,219	45,302	4,023	148,544	1,347	6,452	1,264	9,063	157,607

COHO SALMON

Year	Lower Yukon Area 334-10	334-20	334-30	Subtotals	Upper Yukon Area 334-40	334-50	334-60	Subtotals	Totals
1960	-	-	-	-	-	-	-	-	-
1961	2,855	-	-	2,855	-	-	-	-	2,855
1962	22,926	-	-	22,926	-	-	-	-	22,926
1963	5,572 1/	-	-	5,572	-	-	-	-	5,572
1964	2,446	-	-	2,446	-	-	-	-	2,446
1965	350	-	-	350	-	-	-	-	350
1966	19,254	-	-	19,254	-	-	-	-	19,254
1967	9,925	-	1,122	11,047	-	-	-	-	11,047
1968	13,153	-	150	13,303	-	-	-	-	13,303
1969	14,041	-	845	14,886	-	-	-	95	14,981
1970	12,245	-	-	12,245	-	-	-	-	12,245
1971	12,165	-	-	12,165	-	-	-	38	12,203
1972	21,705	506	-	22,211	-	-	-	22	22,233
1973	34,860	1,781	-	36,641	-	-	-	-	36,641
1974	13,728	176	-	13,904	-	909	1,427	2,336	16,240
1975	2,288	-	-	2,288	-	5	53	58	2,346
1976	4,084	17	-	4,101	-	-	1,096	1,096	5,197
1977	30,588	5,312	521	36,421	-	-	1,600	1,600	38,021
1978	16,262	5,835	758	22,855	32	7	3,066	3,105	25,960
1979	11,244	2,920	-	14,164	155	-	2,791	2,946	17,110
1980	4,828	2,660	-	7,488	-	27	1,226	1,253	8,741
1981	13,154	7,837	427	21,418	-	-	2,284	2,284	23,702

Appendix Table 2. Commercial salmon catches by species and districts, Yukon area 1960-1981 (continued).

CHUM SALMON

Year	Lower Yukon Area 334-10	334-20	334-30	Subtotals	Upper Yukon Area 334-40	334-50	334-60	Subtotals	Totals
1960	-	-	-	-	-	-	-	-	-
1961	42,577[1/]	-	-	42,577	-	-	-	-	42,577
1962	53,160[1/]	-	-	53,160	-	-	-	-	53,160
1963	-	-	-	-	-	-	-	-	-
1964	8,347	-	-	8,347	-	-	-	-	8,347
1965	22,936	-	-	22,936	-	-	-	381	23,317
1966	69,836	-	1,209	71,045	-	-	-	-	71,045
1967	46,148	1,425	1,880	49,453	-	-	-	-	49,453
1968	62,852[1/]	1,407	3,136	67,395	-	-	-	-	67,395
1969	184,411	5,024	1,722	191,157	-	-	-	703	191,860
1970	320,138	22,394	3,285	346,357	-	-	-	907	346,724
1971	282,461	6,112	50	288,623	-	-	-	1,061	289,684
1972	250,945	33,805	1,840	286,590	-	-	-	1,254	287,844
1973	395,431[1/]	109,138[1/]	463	505,032	-	-	-	13,003	518,035
1974	641,663	127,644	2,273	771,580	37,079	30,382	40,187	107,648	879,228
1975	576,607	150,259	5,590	732,456	178,720	40,209	33,474	252,403	984,859
1976	382,216	120,959	14,504	517,679	213,019	6,247	24,564	243,830	761,509
1977	385,972	159,051	19,310	564,333	183,932	26,801	22,595	233,328	797,661
1978	523,557	277,086	38,728	839,371	375,617	25,907	47,934	449,458	1,288,829
1979	491,475	270,979	69,395	831,849	222,653	57,282	54,196	334,131	1,165,980
1980	497,853	394,412	58,090	950,355	304,370	42,802	58,357	405,529	1,355,884
1981	675,463	506,341	73,682	1255,486	262,983	95,929	63,473	422,385	1,677,871

TOTAL SALMON

Year	Lower Yukon Area 334-10	334-20	334-30	Subtotals	Upper Yukon Area 334-40	334-50	334-60	Subtotals	Totals
1960	50,713	15,994	-	66,707	-	-	-	884	67,591
1961	129,895	29,028	4,965	163,888	-	-	-	1,804	165,692
1962	143,185	22,224	4,687	170,096	-	-	-	724	170,820
1963	90,576	24,211	6,976	121,763	-	-	-	803	122,566
1964	78,348	20,246	4,705	103,299	-	-	-	1,081	104,380
1965	112,554	23,763	3,204	139,521	-	-	-	2,244	141,765
1966	159,878	16,927	4,821	181,626	-	-	-	1,988	183,614
1967	160,423	21,714	6,620	188,757	-	-	-	1,449	190,206
1968	155,470	22,799	7,829	186,098	-	-	-	1,126	187,224
1969	269,314	19,823	6,144	295,281	-	-	-	1,783	297,064
1970	390,064	39,604	6,997	436,665	-	-	-	2,573	439,238
1971	380,668	25,338	3,540	409,546	-	-	-	2,848	412,394
1972	342,702	52,166	5,681	400,549	-	-	-	2,368	402,917
1973	487,272[1/]	124,778[1/]	3,667	615,717	-	-	-	14,312	630,029
1974	727,071	145,767	5,774	875,034	37,764	33,954	43,071	114,789	989,823
1975	623,480	161,446	9,797	794,723	179,109	43,086	34,027	256,222	1,050,945
1976	448,932	138,389	18,743	606,064	213,404	9,147	26,762	249,313	855,377
1977	486,016	181,144	23,744	690,934	184,891	31,068	25,203	241,162	932,096
1978	597,709	315,256	42,403	955,368	376,350	29,029	51,644	457,023	1,412,391
1979	578,988	315,256	74,503	968,747	224,777	60,802	57,820	343,399	1,312,146
1980	592,770	447,896	63,330	1,103,996	305,918	48,140	61,659	415,717	1,519,713
1981	787,836	559,480	78,132	1,425,448	264,330	102,381	67,021	433,732	1,859,180

1/ Includes small number of pink or red salmon.

Appendix Table 3 . Commercial Fisheries Entry Commission (C.F.E.C.) permits issued by gear type, Yukon area, 1976-1981

Year	Number of GILL NET Permits 5/		
	Lower Yukon 1/ 2/	Upper Yukon 3/ 4/	Total
1976	678	118	796
1977	691	66	757
1978	694	68	762
1979	700	64	764
1980	686	78	764
1981	689	72	761

Year	Number of FISHWHEEL Permits 5/
	Upper Yukon 4/
1976	169
1977	161
1978	161
1979	166
1980	164
1981	175

1/ Information obtained from Commercial Fisheries Entry Commission Annual Reports.

2/ Set or drift gillnet.

3/ Set gillnet only.

4/ Includes Interim-use permits.

5/ Does not include transfers.

Appendix Table 4. Actual number of commercial salmon fishing vessels by district, Yukon area, 1971-1981 1/

KING SALMON SEASON

Year	Lower Yukon Area 334-10	334-20	334-30	Subtotals	Upper Yukon Area 334-40	334-50	334-60	Subtotals	Total
1971	405	154	33	592	--	--	--	--	--
1972	426	153	35	614	--	--	--	--	--
1973	438	167	38	643	--	--	--	--	--
1974	396	154	42	592	27	31	20	78	670
1975	441	149	37	627	93	52	36	181	808
1976	453	189	42	684	80	46	29	155	839
1977	392	188	46	626	87	41	18	146	772
1978	429	204	22	655	80	45	35	160	815
1979	425	210	22	657	87	34	30	151	808
1980	407	229	21	657	79	35	33	147	804
1981	448	225	23	696	80	43	26	149	845

FALL SEASON

Year	Lower Yukon Area 334-10	334-20	334-30	Subtotals	Upper Yukon Area 334-40	334-50	334-60	Subtotals	Total
1971	352	--	--	352	--	--	--	--	--
1972	353	75	3	431	--	--	--	--	--
1973	445	183	--	628	--	--	--	--	--
1974	322	121	6	449	17	23	22	62	511
1975	428	185	12	625	44	33	33	110	735
1976	422	194	28	644	18	36	44	98	742
1977	337	172	37	546	28	34	32	94	640
1978	429	204	28	661	24	43	30	127	788
1979	458	220	32	710	31	44	37	112	822
1980	395	232	23	650	33	43	26	102	752
1981	462	240	21	723	30	50	30	110	833

COMBINED SEASONS

Year	Lower Yukon Area 334-10	334-20	334-30	Subtotals	Upper Yukon Area 334-40	334-50	334-60	Subtotals	Total
1971	473	154	33	660	--	--	--	27	687
1972	476	153	35	664	--	--	--		664
1973	529	205	38	772	--	--	--	47	819
1974	485	190	42	717	28	43	27	98	815
1975	491	197	39	727	95	57	46	198	925
1976	482	220	44	746	96	62	56	214	960
1977	402	208	54	664	96	53	39	188	852
1978	472	221	29	722	82	53	38	173	895
1979	461	230	33	724	90	49	40	179	903
1980	432	247	27	706	88	51	38	177	883
1981	507	257	26	790	94	56	31	186	976

1/ Actual number of fishing vessels refer to those boats which made at least one delivery. Data presented shows the number of vessels that operated in each district. Some individua fishing vessels in the lower Yukon area may have operated in more than one district during the year.

Appendix Table 5 . Commercial king salmon catches by statistical area, Lower Yukon area, 1971-1981

District 334-10

	334-11	334-12	334-13	334-14	334-15	334-16	334-17	334-18	Total
1971	3,038	25,679	7,204	10,576	17,140	3,949	12,446	6,010	86,042
1972	2,845	12,307	3,608	9,403	18,582	5,331	13,469	4,507	70,052
1973	7,475	29,962	4,657	3,644	1,374	276	7,184	2,409	56,981
1974	3,093	29,082	7,062	3,982	13,003	2,084	6,811	5,950	71,067
1975	7,275	15,712	8,698	308	1,744	606	7,144	3,710	45,197
1976	8,343	28,117	7,575	852	5,081	1,444	6,156	5,064	62,632
1977	11,167	16,968	8,174	915	15,533	1,550	7,084	8,065	69,456
1978	1,154	12,175	4,128	4,372	20,797	3,628	7,422	4,214	57,890
1979	970	13,541	4,052	5,992	13,144	10,897	19,287	8,386	76,269
1980	456	12,696	3,162	9,871	30,482	12,361	13,060	8,001	90,089
1981	6,222	12,892	2,986	9,055	19,771	15,282	22,132	10,879	99,219

District 334-20

	334-21	334-22	334-23	334-24	334-25	Total
1971	5,926	7,893	3,061	2,346	-	19,226
1972	1,839	11,216	1,426	3,374	-	17,855
1973	5,959	5,574	1,106	1,220	-	13,859
1974	6,270	5,032	2,612	3,673	-	17,587
1975	2,413	3,029	1,787	2,595	-	9,824
1976	5,111	4,511	3,056	4,735	-	17,413
1977	6,580	4,623	2,113	3,465	-	16,781
1978	8,868	7,690	5,086	8,439	2,252	32,335
1979	10,810	10,904	6,733	7,673	5,237	41,357
1980	11,588	13,795	8,152	8,575	8,714	50,824
1981	11,901	13,357	7,065	5,908	7,071	45,302

District 334-30

	334-31	334-32	Total
1971	1,352	2,138	3,490
1972	1,783	2,058	3,841
1973	2,264	940	3,204
1974	1,196	2,217	3,413
1975	2,761	1,416	4,177
1976	1,827	2,412	4,239
1977	1,741	2,202	3,943
1978	747	2,170	2,917
1979	2,111	2,997	5,108
1980	2,803	2,437	5,240
1981	1,241	2,782	4,023

Appendix Table 6 . Commercial king salmon catches by statistical area, Upper Yukon area, 1974- 1981.

District 334-40

	334-41	334-42	334-43	Total
1974	-	679	-	679
1975	15	374	-	389
1976	32	353	-	385
1977	305	654	-	959
1978	276	425	-	701
1979	791	344	834	1,969
1980	352	538	631	1,521
1981	106	867	374	1,347

District 334-50

	334-51	334-52	334-53	334-54	Total
1974	2,282	379	-	-	2,661
1975	2,602	263	-	-	2,865
1976	2,593	307	-	-	2,900
1977	3,984	283	-	-	4,267
1978	2,874	241	-	-	3,115
1979	3,455	65	-	-	3,520
1980	4,940	398	-	-	5,338
1981	97	2,970	2,636	749	6,452

District 334-60

	334-61	334-62	334-63	Total
1974	111	1,086	260	1,457
1975	77	130	253	460
1976	503	295	304	1,102
1977	477	365	166	1,008
1978	38	62	544	644
1979	101	362	370	833
1980	92	1,651	333	2,076.
1981	438	588	238	1,264

Commercial Coho Salmon C[illegible]
by Stat. Area, Yukon Area.

	334-11	12	13	14	15	16	17	18	Total
1975	-	829	814	92	135	9	364	-	2,243
1976	3	2,651	542	223	448	-	167	20	4,084
1977	89	15,918	4,956	1,548	2,784	-	5,267	26	30,5[illegible]
1978	-	5,057	1,151	1,196	2,213	511	3,996	2,138	16,2[illegible]
1979	42	2,386	1,045	959	2,082	1,189	3,229	272	11,24[illegible]
19[illegible]0	29	1,647	206	121	322	721	1,[illegible]	2[illegible]	4,[illegible]
[illegible]1	-	3,219	[illegible]	1,555	3,977	5	[illegible],702	9[illegible]	13,[illegible]

Appendix Table 7 . Comparative commercial catches of king and summer chum salmon by mesh size, lower Yukon area, 1961-1981

	No Mesh Size Restrictions 1/ Districts 334-10, 334-20 & 334-30		5-1/2 - 6 inch Mesh Size 2/ Districts 334-10, 334-20 & 334-30	
	Kings	Summer Chums	Kings	Summer Chums
1961	118,399	-	-	-
1962	93,983	-	-	-
1963	116,191	-	-	-
1964	92,506	-	-	-
1965	116,235	-	-	-
1966	91,322	-	-	-
1967	128,242	10,976	-	-
1968	105,385	14,470	-	-
1969	88,964	41,418	97	19,151
1970	78,424	104,705	119	32,663
1971	107,113	42,239	1,176	57,851
1972	89,217	79,225	2,254	56,443
(Average 1961-72)	(102,165)	(48,839)	(912)	(41,527)
1973 3/	68,473	89,304	5,168	196,540
1974	90,334	351,363	1,631	227,507
1975	54,791	148,919	4,247	376,557
1976	75,758	275,986	7,563	123,457
1977	85,011	161,368	4,907	227,038
1978	84,727	278,259	8,010	374,741
1979	98,210	137,083	24,153	477,518
1980	124,808	96,042	21,164	654,281
1981	128,918	165,017	19,281	748,709
(Average 1973-81)	(90,114)	(189,260)	(10,680)	(378,483)

1/ Primarily 8-8-1/2 inch mesh size used during early June - early July.
2/ Catch through July 15-19, relatively few kings and summer chums taken after these dates.
3/ Six inch maximum size regulation beginning late June-early July became effective in districts 334-10 and 334-20.

Appendix Table 8. Comparative commercial king salmon catch data, Yukon area, 1960-1981. 1/

	Year	334-10	334-20	Sub-total (10+20)	334-30
Commercial Catch	1960	50,713	15,994	66,707	
	1961	84,406	29,028	113,434	4,965
	1962	67,072	22,224	89,296	4,687
	1963	85,004	24,211	109,215	6,976
	1964	67,555	20,246	87,801	4,705
	1965	89,268	23,763	113,031	3,204
	1966	70,783	16,927	87,710	3,612
	1967	104,335	20,289	124,624	3,618
	1968	79,465	21,392	100,857	4,543
	1969	70,588	14,799	85,387	3,577
	1970	57,502	17,210	74,712	3,712
	1971	84,397	19,226	103,623	3,490
	1972	68,059	17,317	85,376	3,841
	1973	52,790	12,479	65,269	3,204
	1974	69,457	17,464	86,921	3,413
	1975	41,550	9,064	50,614	4,177
	1976	56,392	15,296	71,688	4,070
	1977	65,745	15,328	81,073	3,938
	1978	53,198	28,872	82,070	2,657
	1979	61,790	33,347	95,137	3,073
	1980	78,157	42,755	120,912	3,896
	1981	88,038	37,660	125,698	3,220

	Year	334-10	334-20	Sub-total (10+20)	334-30
Boat Hours (Catch per boat hour)	1960	40,848 (1.24)	34,914 (0.46)	75,762 (0.88)	
	1961	79,224 (1.07)	29,118 (1.00)	108,342 (1.05)	2,808 (1.77)
	1962	84,792 (0.79)	38,118 (0.58)	122,910 (0.73)	2,320 (1.96)
	1963	72,288 (1.18)	27,672 (0.87)	99,960 (1.09)	5,616 (1.24)
	1964	56,736 (1.19)	22,398 (0.91)	79,134 (1.11)	4,596 (1.02)
	1965	78,096 (1.14)	31,008 (0.77)	109,104 (1.04)	2,296 (1.40)
	1966	69,894 (1.01)	22,380 (0.76)	92,274 (0.95)	1,782 (1.23) 2/
	1967	102,456 (1.02)	37,488 (0.54)	139,944 (0.89)	4,050 (0.89)
	1968	92,450 (0.86)	32,280 (0.66)	124,730 (0.81)	3,745 (1.21)
	1969	84,864 (0.83)	27,828 (0.53)	112,692 (0.76)	3,577 (0.72)
	1970	61,260 (0.94)	20,460 (0.84)	81,720 (0.91)	3,566 (1.04)
	1971	73,272 (1.15)	19,956 (0.96)	93,228 (1.11)	4,790 (0.73)
	1972	79,236 (0.86)	19,872 (0.87)	99,108 (0.86)	5,916 (0.59)
	1973	75,036 (0.70)	23,496 (0.53)	98,532 (0.66)	7,282 (0.44)
	1974	86,256 (0.80)	29,808 (0.60)	116,064 (0.75)	7,032 (0.49)
	1975	49,944 (0.83)	8,376 (1.08)	58,320 (0.87)	3,332 (1.18)
	1976	64,572 (0.87)	23,434 (0.65)	88,150 (0.81)	4,392 (0.92)
	1977	42,618 (1.54)	15,180 (1.01)	57,798 (1.40)	3,636 (1.08)
	1978	57,528 (0.92)	25,524 (1.13)	83,052 (0.99)	1,372 (1.42)
	1979	53,040 (1.17)	23,904 (1.39)	76,944 (1.24)	1,464 (2.10)
	1980	45,348 (1.73)	20,196 (2.12)	65,544 (1.85)	1,368 (2.85)
	1981	43,632 (2.02)	19,536 (1.93)	63,168 (1.99)	552 (5.83)

1/ 334-10 and 334-20 data are only for the king salmon season (June 4 early July).
2/ Catch per vessel hour does not include 1,421 king salmon captured by an unknown number of fishermen.

Appendix Table 9. Comparative king salmon commercial catch data by date, king salmon season, district 334-10, Yukon area, 1961-1981.

Cumulative catch 1/ (Cumulative catch /boat hour) 2/

Date	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
6/1																					
6/2							4.4(0.46)														
6/3																					
6/4									3.8(0.42)												
6/5			0.7(0.26)					0.1(0.05)						3.6(0.46)					6.1(0.84)		
6/6										0.01(0.03)			0.3(0.18)								
6/7							21.3(0.86)		8.1(0.34)												11.1(1.49)
6/8	3.6(0.32)		4.7(0.45)					1.4(0.10)						11.0(0.60)					11.0(0.71)		
6/9					0.6(0.17)								2.8(0.25)					2.5(0.35)			26.7(1.68)
6/10							37.9(0.98)			0.5(0.16)		0.04(0.08)								6.8(1.01)	
6/11						0.6(0.16)			26.8(0.75)						0.2(0.09)						
6/12			16.9(0.87)		4.1(0.31)			11.3(0.62)			0.03(0.15)			26.7(0.82)					30.5(1.26)		41.2(1.66)
6/13										3.0(0.32)			9.6(0.46)					8.3(0.56)			
6/14		0.0(0.57)					62.7(1.18)		48.7(0.79)			1.04(0.17)			0.6(0.11)		0.04(0.05)			32.9(1.63)	
6/15	46.6(1.61)		34.3(1.14)			4.0(0.38)		25.7(0.76)						36.8(0.84)							
6/16					19.3(0.85)						1.2(0.29)		21.5(0.59)			0.1(0.06)			39.8(1.08)		59.5(1.75)
6/17				0.2(0.11)			66.5(0.99)			8.4(0.48)		4.5(0.24)			1.7(0.17)			25.9(0.91)		47.5(1.67)	
6/18						23.1(0.86)			42.9(0.75)								2.6(0.41)				
6/19			50.3(1.27)		42.7(1.22)			31.8(0.69)		5.1(0.30)				56.6(0.99)		3.3(0.27)			55.5(1.23)		68.0(2.02)
6/20				9.5(0.88)					58.3(0.82)				30.6(0.65)					33.4(0.91)			
6/21		27.5(0.76)					83.4(1.02)			32.7(1.07)		21.6(0.68)			7.4(0.39)		13.0(0.92)			73.7(1.80)	
6/22	66.6(1.42)		56.8(1.13)			40.9(1.00)		56.7(0.90)						58.5(0.96)					61.8(1.17)		
6/23					69.3(1.47)						18.2(0.61)		42.6(0.68)			12.9(0.49)				78.2(1.72)	
6/24				37.0(1.00)			90.0(1.02)		66.3(0.85)	39.3(0.97)		37.8(0.77)						47.8(0.96)			
6/25						54.4(1.06)									24.5(0.76)		39.3(1.50)				
6/26			72.0(1.23)		77.2(1.32)			70.3(0.94)		50.2(1.07)	40.7(0.68)			65.7(0.90)		28.3(0.69)					
6/27				48.5(1.54)			104.3(1.02)						52.8(0.70)		34.3(0.83)			53.2(0.92)			
6/28		62.3(0.95)				66.7(1.08)			70.8(0.83)			53.2(0.86)					57.0(1.62)			
6/29	79.0(1.23)		83.5(1.22)		81.0(1.18)			77.9(0.90)						69.5(0.80)		42.1(0.76)					
6/30											75.3(1.29)										
7/1				55.3(1.38)						65.0(0.99)		68.1(0.86)			41.6(0.83)		65.7(1.54)				
7/2						70.8(1.01)										58.4(0.87)					
7/3			85.0(1.10)		89.3(1.14)			79.5(0.86)		57.5(0.94)	84.4(1.15)										
7/4				65.3(1.32)																	
7/5		67.1(0.79)																			
7/6	84.4(1.07)																				
7/7																					
7/8				67.6(1.19)																	

1/ Cumulative catch in thousands of fish by period for the king salmon season (June & early July).

2/ Boat hours computed by multiplying the number of hours in the period by number of boats making at least one delivery during the period; however for the years 1961-1966 the number of boats in the period was obtained by using the greatest number of boats making at least one delivery during any day of the period.

Appendix Table 10. Commercial salmon catches taken under quotas or guideline harvest level ranges, Yukon area, 1974-1981.

KING SALMON 1/

District	Lower Yukon Area 334-10 and 334-20	Lower Yukon Area 334-30	Upper Yukon Area 334-40	Upper Yukon Area 334-50	Upper Yukon Area 334-60
1974	-	3,413 (3,000)	679 (1,000)	2,661 (3,000)	1,458 (1,000)
1975	-	4,177 (3,000)	389 (1,000)	2,865 (3,000)	460 (1,000)
1976	-	4,070 (3,000)	385 (1,000)	2,900 (3,000)	1,102 (1,000)
1977	-	3,938 (3,000)	959 (1,000)	4,266 (3,000)	1,008 (1,000)
1978	-	2,657 (2,000)	701 (1,000)	3,115 (3,000)	1,644 (1,000)
1979 2/	-	3,073 (1,800-2,200)	1,232 (900-1,100)	3,520 (2,700-3,300)	833 (900-1,000)
1980	-	3,896 (1,800-2,200)	1,517 (900-1,100)	5,338 (2,700-3,300)	2,076 (900-1,100)
1981	~~125,698~~ (60,000-120,000)	3,220 (1,800-2,200)	1,347 (~~900~~-1,100)	6,452 (2,700-3,300)	1,264 (600-800)

FALL CHUM AND COHO SALMON 1/

District	Lower Yukon Area 3/ 334-10, 334-20 and 334-30	Upper Yukon Area 4/ 334-40 5/	Upper Yukon Area 4/ 334-50	Upper Yukon Area 4/ 334-60
1974	230,128 (200,000)	9,213 (10,000)	25,051 (25,000)	26,192 (15,000)
1975	215,439 (200,000)	13,552 (10,000)	27,212 (25,000)	18,735 (15,000)
1976	131,313 (200,000)	1,742 (10,000)	5,387 (25,000)	19,051 (15,000)
1977	199,603 (200,000)	13,996 (10,000)	25,695 (25,000)	19,910 (15,000)
1978	191,120 (200,000)	11,262 (10,000)	21,017 (25,000)	16,325 (15,000)
1979 2/	229,403 (120,000-220,000)	50,375 (10,000-40,000)	51,161 (10,000-40,000)	34,316 (7,500-22,500)
1980	204,229 (120,000-220,000)	32,058 (10,000-40,000)	42,343 (10,000-40,000)	20,746 (7,500-22,500)
1981	341,760 (120,000-220,000)	19,447 (10,000-40,000)	95,844 (10,000-40,000)	29,008 (5,500-20,500)

1/ Quotas or guideline harvest level shown in parenthesis.

2/ Beginning in 1979, quotas were replaced by guideline harvest level ranges.

3/ Chum salmon only; coho salmon catch not applied toward quotas or G.H.L.

4/ Chum and coho salmon combined; mostly fall chums.

5/ Beginning in 1978 quota or guideline harvest levels in effect for district 334-42 only. District 334-41 closed August 1.

Appendix Table 11. Commercial chum salmon catches by statistical area, Lower Yukon area, 1971- 1981.

District 334-10

	334-11	334-12	334-13	334-14	334-15	334-16	334-17	334-18	Total
1971	834	87,740	24,766	34,891	40,617	8,063	67,635	17,915	282,46
1972	5,186	98,909	12,146	25,943	56,039	4,073	38,274	10,375	250,94
1973	17,259	176,119	39,583	18,607	61,970	6,413	52,770	22,706	395,42
1974	38,272	326,731	127,228	20,878	49,982	5,014	36,232	36,715	641,05
1975	33,095	254,300	103,573	12,773	46,113	5,779	99,728	28,354	583,71
1976	26,336	205,416	52,460	9,417	28,423	4,227	32,024	23,913	382,21
1977	34,145	184,735	53,722	9,660	43,344	1,033	40,579	18,754	385,97
1978	5,108	195,699	67,397	57,320	79,827	5,742	75,436	37,028	523,55
1979	1,539	118,868	39,014	43,503	94,089	47,900	97,804	48,758	491,47
1980	3,282	81,904	16,983	45,759	87,476	98,474	110,406	53,569	497,85
1981	25,443	207,295	26,713	75,559	92,368	51,746	142,673	53,666	675,46

District 334-20

	334-21	334-22	334-23	334-24	334-25	Total
1971	2,255	3,144	286	427	-	6,112
1972	3,091	22,746	250	7,718	-	33,805
1973	22,207	56,528	6,181	24,125	-	109,041
1974	38,273	51,108	11,187	25,253	-	125,821
1975	20,887	99,651	11,028	20,044	-	151,610
1976	22,027	58,693	18,237	22,002	-	120,959
1977	26,488	76,320	23,664	32,579	-	159,051
1978	48,090	131,141	31,403	60,800	5,652	277,086
1979	75,813	86,886	30,565	33,321	44,394	270,979
1980	81,607	157,848	76,136	46,882	31,939	394,412
1981	75,600	215,019	89,549	78,528	47,645	506,341

District 334-30

	334-31	334-32	Total
1971	26	24	50
1972	-	527	527
1973	-	463	463
1974	2,047	110	2,157
1975	-	5,590	5,590
1976	4,450	10,054	14,504
1977	12,877	6,433	19,310
1978	20,230	18,498	38,728
1979	26,807	42,588	69,395
1980	23,261	34,829	58,090
1981	35,765	37,917	73,682

Appendix Table 12. Commercial chum salmon catches by statistical area, Upper Yukon area, 1974-1981 1/.

District 334-40

	334-41	334-42	334-43	Total
1974	1,200 (2/)	37,714 (2/)	-	38,914 (9.2)
1975	107,813 (2.1)	70,908 (11.4)	-	178,721 (13.5)
1976	178,708 (0.5)	34,311 (1.3)	-	213,019 (1.8)
1977	150,425 (1.7)	33,140 (12.3)	-	183,565 (14.0)
1978	309,484 (-)	66,133 (11.2)	-	375,617 (11.2)
1979	138,443 (-)	58,407 (28.6)	25,803 (21.8)	222,653 (50.4)
1980	229,450 (-)	56,058 (17.1)	18,862 (14.9)	304,370 (32.0)
1981	209,540 (-)	42,783 (10.8)	10,660 (8.7)	262,983 (19.4)

District 334-50

	334-51	334-52	334-53	334-54	Total
1974	27,860 (2/)	153 (2/)	-	-	28,013 (23.
1975	40,334 (27.2)	10 (-)	-	-	40,344 (27.
1976	6,175 (5.4)	72 (-)	-	-	6,247 (5.4
1977	26,848 (25.7)	0	-	-	26,848 (25.
1978	25,570 (20.7)	337 (.3)	-	-	25,907 (21.
1979	56,447 (55.8)	835 (.8)	-	-	57,282 (56.
1980	40,763 (40.3)	2,039 (2.0)	-	-	42,802 (42.
1981	1,248 (1.2)	41,986 (41.9)	48,574 (48.6)	4,121 (4.1)	95,929 (95.

District 334-60

	334-61	334-62	334-63	Total
1974	11,082 (9.6)	25,868 (15.4)	3,237 (1.9)	40,187 (26.9)
1975	18,761 (13.3)	5,147 (2.8)	9,424 (2.6)	33,332 (18.7)
1976	9,337 (6.4)	9,178 (8.0)	6,049 (3.6)	24,564 (18.0)
1977	5,945 (3.6)	12,420 (11.1)	4,586 (3.9)	22,951 (18.6)
1978	6,742 (4.7)	35,927 (8.0)	5,265 (.5)	47,934 (13.2)
1979	7,736 (7.4)	36,271 (21.5)	9,863 (5.5)	54,196 (34.4)
1980	11,456 (6.3)	40,563 (11.2)	6,338 (2.0)	58,357 (19.5)
1981	9,537 (4.9)	46,096 (21.7)	7,840 (2.5)	63,473 (29.0)

1/ Fall chum catch in thousands of fish shown in parenthesis.
2/ Information not available.

Appendix Table 13. Comparative summer and fall chum salmon commercial catches, Yukon area, 1971-1981.

Year	Lower Yukon Area 334-10	334-20	334-30	Sub Total	Upper Yukon Area 334-40	334-50	334-60	Sub Total	Total	Lower Yukon Area 334-10	334-20	334-30	Sub Total	Upper Yukon Area 334-40	334-50	334-60	Sub Total	Total	TOTAL CHUMS Lower Yukon Area 334-10	334-20	334-30	Sub Total	Upper Yukon Area 334-40	334-50	334-60	Sub Total	Total
1961	-	-	-	-	-	-	-	-	-	42,577 1/	-	-	42,577	-	-	-	-	42,577	42,577	-	-	42,577	-	-	-	-	42,577
1962	-	-	-	-	-	-	-	-	-	53,160 1/	-	-	53,160	-	-	-	-	53,160	53,160	-	-	53,160	-	-	-	-	53,160
1963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1964	-	-	-	-	-	-	-	-	-	8,347	-	-	8,347	-	-	-	-	8,347	8,347	-	-	8,347	-	-	-	-	8,347
1965	-	-	-	-	-	-	-	-	-	22,936	-	-	22,936	-	-	-	381	23,317	22,936	-	-	22,936	-	-	-	381	23,317
1966	-	-	-	-	-	-	-	-	-	69,836	-	1,209	71,045	-	-	-	-	71,045	69,836	-	1,209	71,045	-	-	-	-	71,045
1967	9,697	1,425	57	11,179	-	-	-	-	11,179	36,451	-	1,823	38,274	-	-	-	-	38,274	46,148	1,425	1,880	49,453	-	-	-	-	49,453
1968	12,995	1,407	68	14,470	-	-	-	-	14,470	49,857 1/	-	3,068	52,925	-	-	-	-	52,925	62,852	1,407	3,136	67,395	-	-	-	-	67,395
1969	55,545	5,024	-	60,569	-	-	-	-	60,569	128,866	-	1,722	130,588	-	-	-	703	131,291	184,411	5,024	1,722	191,157	-	-	-	703	191,860
1970	119,832	17,536	-	137,368	-	-	-	-	137,368	200,306	4,858	3,285	208,449	-	-	-	907	209,356	320,138	22,394	3,285	346,817	-	-	-	907	346,724
1971	93,928	6,112	60	100,090	-	-	-	-	100,090	188,533	-	-	188,533	-	-	-	1,061	189,594	282,461	6,112	50	288,623	-	-	-	1,061	289,684
1972	114,234	20,907	527	135,668	-	-	-	-	135,668	136,711	12,898	1,313	150,922	-	-	-	1,254	152,176	250,945	33,805	1,840	286,590	-	-	-	1,254	287,844
1973	221,644	61,737	463	285,844	-	-	-	-	285,844	173,783	45,304	-	219,087	-	-	-	13,003	232,090	395,427	109,041	463	504,931	-	-	-	13,003	517,934
1974	479,554	72,201	1,605	553,440	29,701	4,462	13,303	47,466	600,906	161,490	53,640	552	215,590	9,213	23,551	26,884	59,648	275,238	641,062	125,821	2,157	769,030	38,914	28,013	40,187	107,114	876,144
1975	435,256	99,944	-	535,200	165,169	13,137	14,650	192,956	728,156	148,459	58,666	6,590	205,716	13,552	27,207	18,682	59,441	265,156	583,715	158,610	6,590	740,915	178,721	40,344	33,333	252,397	993,312
1976	269,523	99,747	10,254	379,524	211,277	860	6,566	218,703	598,227	112,693	21,212	4,250	138,155	1,742	5,387	17,998	25,127	163,282	382,216	120,959	14,504	517,679	213,019	6,247	24,564	243,830	761,509
1977	263,395	107,057	3,459	373,911	169,569	1,153	4,325	175,047	548,958	122,577	61,994	15,851	190,422	13,995	25,695	18,626	58,317	248,739	385,972	159,051	19,310	564,333	183,565	26,848	22,951	233,264	797,597
1978	380,492	225,440	27,201	641,133	364,387	4,897	34,675	403,959	1,045,092	135,065	51,646	11,527	198,238	11,230	21,010	13,259	45,499	243,737	623,557	277,086	38,728	939,371	376,617	25,907	47,934	449,458	1,388,829
1979	390,351	176,937	43,440	610,728	172,278	614	19,880	192,772	803,500	101,124	94,042	26,955	221,121	50,375	56,668	34,316	141,359	363,480	491,475	270,979	69,395	831,849	222,653	57,282	54,196	334,131	1,165,980
1980	391,024	316,531	44,571	746,126	232,339	459	38,837	311,635	1,057,761	106,629	81,881	13,519	204,229	32,031	42,343	19,520	93,894	298,123	497,853	394,412	58,090	950,355	304,370	42,802	58,357	405,529	1,355,884
1981	507,629	351,458	54,639	913,726	243,536	86	34,465	278,006	1,191,812	167,834	154,883	19,043	341,760	19,447	95,844	29,008	144,299	486,059	675,463	506,341	73,682	1,255,486	262,983	95,929	63,473	422,385	1,677,871

1/ Includes small numbers of pink or red.

Appendix Table 14 . Comparative commercial summer chum salmon catch data, districts 334-10 and 334-20, Yukon area, 1967-81.

	District 334-10					District 334-20				
Year	Duration	Days Fished	Boat Hours	Catch	(catch/boat hour)	Duration	Days Fished	Boat Hours	Catch	(catch/boat hour)
1967	6/8-6/27	11.0	77,208	9,494	(0.12)	-	-	-	-	-
1968	6/6-7/3	14.0	91,380	12,995	(0.13)	6/13-7/2	10.5	27,600	1,407	(0.05)
1969	6/2-6/28	12.5	84,864	8,840	(0.10)	6/15-7/1	8.0	16,620	5,024	(0.30)
1970	6/11-7/3	10.5	58,056	87,169	(1.50)	6/14-7/3	9.0	15,756	17,536	(1.11)
1971	6/14-7/3	10.5	73,032	36,077	(0.49)	6/20-7/5	8.5	17,832	6,112	(0.34)
1972	6/8-7/1	12.5	79,236	69,658	(0.88)	6/15-7/1	8.5	19,296	9,040	(0.47)
1973 1/	6/7-7/11	14.5	100,284	191,840	(1.91)	6/10-7/14	14.5	36,000	56,481	(1.57)
1974	6/3-7/13	16.5	114,624	461,025	(4.02)	6/5-7/16	15.5	35,316	72,281	(2.05)
1975	6/9-7/16	15.0	86,304	394,447	(4.72)	6/22-7/18	10.5	21,024	99,944	(4.75)
1976	6/14-7/14	12.0	90,658	272,493	(3.00)	6/20-7/16	11.0	32,624	99,407	(3.05)
1977	6/13-7/12	12.0	63,036	232,427	(3.69)	6/19-7/15	10.0	27,048	102,759	(3.80)
1978	6/8-7/15	13.5	100,008	395,610	(3.96)	6/8-7/14	13.5	44,376	218,196	(4.92)
1979	6/4-7/14	13.5	106,680	382,069	(3.57)	6/3-7/13	13.5	44,748	174,901	(3.91)
1980	6/9-7/15	12.8	89,412	391,024	(4.37)	6/8-7/17	12.5	48,060	310,531	(6.46)
1981	6/6-7/14	12.0	94,656	507,629	(5.36)	6/7-7/16	12.0	46,560	351,458	(7.54)

1/ 6 inch maximum mesh size regulation during late June-early July became effective in 1973.

Appendix Table 15. Comparative commercial coho and chum salmon catch data for the fall season, district 334-10 Yukon area, 1961-81.

Year	Dates	Days 1/ Fished	Boat Hours	Commercial catch (catch/boat hour) Coho	Chum
1961	8/1-8/31	16	14,772	2,855 (0.2)	42,461 (2.9)
1962	8/1-9/3	21	46,950	22,926 (0.5)	53,116 (1.1)
1963	8/9-9/6	18	2,100	5,572 (2.7)	no purchases
1964	8/3-8/27	17	8,346	2,446 (0.3)	8,347 (1.0)
1965	8/2-8/4	2/	2/	350 (2/)	22,936 (2/)
1966	7/25-9/10	28	41,994	19,254 (0.5)	69,836 (1.7)
1967	7/24-8/27	21	19,272	9,925 (0.5)	36,451 (1.9)
1969	7/22-8/28	22	47,232	13,153 (0.3)	49,857 (1.1)
1969	7/21-8/23	20	39,408	14,041 (0.4)	128,866 (3.3)
1970	7/20-8/26	22	56,160	12,245 (0.2)	200,306 (3.6)
1971	7/22-8/28	22	85,344	11,582 (0.1)	178,744 (2.1)
1972	7/20-8/26	22	81,726	19,655 (0.2)	134,752 (1.6)
1973	7/19-8/25	22	107,136	34,860 (0.3)	173,783 (1.6)
1974	7/18-8/14	12	41,868	13,758 (0.2)	137,235 (3.3)
1975	7/21-8/16	12	52,128	2,240 (0.04)	158,183 (3.0)
1976	7/19-8/13	11	55,026	4,084 (0.07)	91,091 (1.7)
1977	7/18-8/23	11	50,568	30,588 (0.6)	129,486 (2.6)
1978	7/17-8/29	13	56,184	16,262 (0.3)	127,947 (2.3)
1979	7/19-8/14	8	47,352	11,231 (0.2)	101,400 (2.1)
1980	7/17-8/19	7	24,216	4,819 (0.2)	106,829 (4.4)
1981	7/16-8/17	7	35,520	11,174 (0.3)	167,834 (4.7)

1/ One "day" is equivalent to 24 hours during open fishing period.
2/ Information not available.

Appendix Table 16. Comparative fall chum salmon commercial catch data by date, fall season, district 334-10, Yukon area, 1969-1981.

Date	Cumulative catch 1/ (Cumulative catch/boat hour) 1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	2/ 1981
7/18		16.1(1.86)			16.4(1.26)					6.3(1.70)		4.2(1.55)	
7/19	3.8(1.10)			18.6(1.91)					21.4(3.72)				
7/20						32.1(1.57)					6.0(1.35)		
7/21			8.2(1.05)		53.6(2.03)			6.9(0.73)		11.4(1.36)			6.0 (1.3)
7/22		29.6(1.67)		45.8(2.23)					23.4(2.54)			10.8(1.97)	
7/23	29.7(3.75)						12.9(1.51)						
7/24			31.9(1.71)			24.7(1.76)		9.7(0.60)			13.2(1.31)		7.3 (1.18)
7/25		30.4(1.54)			67.4(1.91)					64.2(4.14)		21.2(2.24)	
7/26	44.5(3.48)			54.8(1.88)			37.0(2.33)		33.1(2.38)				
7/27						59.0(2.81)					28.0(1.66)		
7/28			37.6(1.38)		112.8(2.28)			16.7(0.69)		67.0(3.34)			64.6 (4.93)
7/29		81.6(2.95)		63.7(1.72)					40.8(2.16)			36.5(3.07)	
7/30	57.0(3.24)						55.9(2.54)						
7/31			53.5(1.48)			86.9(3.16)		79.5(2.24)			37.7(1.62)	37.9(2.94)	87.8 (4.58)
8/1		126.8(3.57)			122.9(2.01)					81.4(3.05)			
8/2	71.8(3.20)			70.5(1.62)			86.9(2.80)		41.7(1.91)				
8/3						91.8(2.86)					55.2(1.82)		
8/4			89.6(1.94)		127.9(1.84)			87.3(1.98)		81.8(2.89)		44.1(3.16)	
8/5		159.4(3.67)		73.6(1.46)					44.9(1.76)				
8/6	94.2(3.45)						112.4(2.87)						
8/7			104.3(1.89)			93.0(2.73)		87.7(1.85)			93.0(2.44)	67.6(3.62)	
8/8		188.4(3.67)			133.9(1.72)					83.2(2.60)			
8/9	108.6(3.39)			108.6(1.85)			134.2(2.90)		94.9(3.06)				
8/10						94.7(2.57)					94.3(2.27)		
8/11			110.2(1.74)		164.6(1.84)			88.4(1.69)		84.8(2.53)		62.8(3.61)	
8/12		189.9(3.47)		123.5(1.86)					96.4(2.76)				
8/13	112.5(3.21)						134.6(2.78)	91.0(1.65)					
8/14			148.3(2.07)			137.4(3.31)					101.4(2.14)	64.6(3.48)	131.6 (5.22)
8/15		192.2(3.35)			170.7(1.77)					86.2(2.30)			
8/16	120.7(3.18)			125.1(1.65)			158.2(3.04)		113.0(2.79)				
8/17										96.4(2.29)			
8/18			153.2(1.95)		177.5(1.70)								135.5 (4.64)
8/19		209.1(3.45)		146.3(1.77)					120.0(2.65)			106.8(4.41)	
8/20	130.4(3.18)												
8/21			177.4(2.10)							118.3(2.44)			
8/22		214.5(3.39)			185.3(1.64)								
8/23	132.6(3.09)			150.5(1.79)					125.8(2.55)				
8/24													
8/25			185.5(2.05)		187.5(1.57)					122.7(2.29)			
8/26		216.4(3.34)		153.3(1.76)									
8/27													
8/28			187.0(2.01)										
8/29					189.3(1.54)					127.9(2.28)			
8/30				154.6(1.60)									
8/31													

1/ Cumulative catch in thousands of fish by period beginning July 18. Fall chum salmon run usually well underway in the lower Yukon River by this date.

2/ Season closed 8/1 - 8/12.

Appendix Table 17. Commercial salmon pack by species and type of processing, Yukon area, 1960-1981 1/

Year	Cases (48#) King	Cases (48#) Coho	Cases (48#) Chum	Fresh-Frozen (round wt. in lbs). King	Fresh-Frozen (round wt. in lbs). Coho	Fresh-Frozen (round wt. in lbs). Chum	Cured King Salmon Tierces	Cured King Salmon 1/2 Tierce	Cured Chum Salmon Tierces	Cured Chum Salmon 1/2 Tierce	Salmon Roe (lbs.)
1960	13,000			2/	2/	2/	250	180			
1961	19,474			2/	2/	2/	504	146			
1962	15,959	512	1,760	2/	2/	2/	464	280			
1963	16,400	1,190		2/	2/	2/	2/	2/			
1964	12,041			2/	17,000	66,770	537	499			
1965	18,149			275,000	2,500	160,500	670	67			
1966	14,026	836	2,812	414,000	61,355	301,240	398	60			
1967	21,503		126	475,900	66,400	366,496	627	96			1,755
1968	19,499		816	561,690	93,154	454,409	351	170			21,000
1969	9,560	1,104	4,499	423,597	26,973 3/	829,586 3/	647	95	15		29,000
1970	6,431	1,002	6,413	716,600	12,900	1,725,000	447	191	51		26,300
1971	6,500	502	3,213	1,058,034	45,836	1,432,455	659	229	139		55,177
1972	7,418	1,005	6,249	1,002,395	83,960	1,495,922	497	147			85,278
1973	5,227	1,008	9,902	1,339,317	181,928	2,929,532	61	133		72	137,594
1974	6,660	603	21,074	1,062,666	58,816	3,879,300	381	56	57		208,842
1975	5,297	40	14,226	781,902	13,299	4,751,941	80	53	45	119	201,404
1976	3,921	80	11,375	1,398,779	29,778	4,256,679	93	92	72	10	226,893
1977	4,642	415	9,428	1,513,484	270,241	4,877,918	180	237	26	-	210,568
1978	5,711	74	9,340	1,473,354	168,241	8,369,156	222	117	7	75	261,422
1979	6,277	22	7,854	2,014,156	108,011	8,098,075	112	91	-	2	410,540
1980	8,764	130	15,783	3,341,262	56,295	8,781,062	29	18	-	37	579,927
1981	1,107	378	11,573	3,686,238	130,097	11,398,680	25	13	9	28	507,550

1/ Pack represents type of processing when fish were stripped out of district.
2/ Information not available.
3/ Includes approximately 11,600 and 110,500 (round weight) of coho and chum salmon respectively, as salted fish for Japanese market.

Appendix Table 18. Dollar value estimates of Yukon area commercial fishery, 1961-1981 1/.

Year	Gross value of catch to fishermen				Wages earned 2/	Total income to area	Wholesale value of pack 3/	Tax revenues to state 4/
	King	Coho	Chum	Total				
1961	420,900	1,400	14,700	437,000			1,292,300	37,500
1962	330,300	11,500	20,100	361,900			1,275,250	50,400
1963	409,500	2,800	-	412,300			1,550,400	42,000
1964	351,000	1,200	2,200	354,400			1,203,800	35,000
1965	531,400	200	10,700	542,300			1,412,700	42,000
1966	419,900	9,600	25,000	454,500			1,308,100	37,000
1967	583,700	5,500	17,200	606,400	250,000	856,400	1,864,800	41,700
1968	494,300	6,700	34,000	535,000	264,000	799,000	1,655,200	47,000
1969	415,000	8,200	96,000	519,200	234,000	753,000	1,976,200	40,000
1970	401,300	10,300	211,500	623,100	185,800	808,900	2,113,100	45,000
1971	590,100	10,000	182,900	783,000	357,700	1,140,700	2,106,600	42,000
1972	547,800	20,400	215,800	784,000	445,400	1,229,400	2,405,200	45,300
1973	561,400	46,500	609,100	1,217,000	585,800	1,802,900	4,453,900	62,800
1974	881,300	28,400	1,011,300	1,921,000	500,100	2,421,100	6,035,900	84,100
1975	589,000	3,500	1,201,400	1,793,900	596,600	2,390,500	4,939,700	37,100
1976	983,500	8,600	1,158,900	2,151,000	687,600	2,838,600	6,815,500	96,900
1977	1,928,400	143,000	1,997,300	4,068,700	850,000	4,918,700	10,499,400	151,000
1978	2,133,700	79,200	3,101,800	5,314,700	1,085,700	6,400,400	14,194,800	179,400
1979	3,008,000	84,400	4,527,100	7,619,500	1,210,000	8,829,500	19,048,800	248,600
1980	3,639,300	21,800	2,676,800	6,703,100 5/	1,475,000	8,178,100	16,757,700	205,400
1981	4,635,500	91,900	5,323,300	10,050,700 6/	1,616,000	11,666,700	26,267,500	322,500

1/ Information not available for wages earned during 1961-1966.

2/ Includes wages paid to tender boat operators and resident processing plant employees in district.

3/ Based on type of processing when fish were shipped out of the district.

4/ Processors tax and vessel and crewmember licenses fees. Does not include CFEC permit fee.

5/ Includes $365,200 in roe sales Upper Yukon area.

6/ Includes $601,100 in roe sales Upper Yukon area.

Appendix Table 19. Estimated average prices paid to fishermen, Yukon area, 1961-81.

PRICE PER FISH

	Lower Yukon Area				Upper Yukon Area			
Date	King	Summer Chum	Fall Chum	Coho	King	Summer Chum	Fall Chum	Coho
1961	$3.50							
1962	3.50							
1963	3.50							
1964	3.75		.25	.50				
1965	4.50		.35					
1966	4.50		.35	.50				
1967	4.50	.35	.35	.50				
1968	4.64	.50	.50	.50				
1969	4.60	.50	.50	.55				
1970	5.00	.61	.61	.84				
1971	5.34	.64	.64	.82				
1972	5.90	.75	.75	.92				
1973	7.45	1.18	1.18	1.27				
1974	9.00	1.36	1.58	1.75	8.67	1.00	1.00	1.00
1975	9.24	1.30	1.50	1.51	16.25	1.12	1.12	1.12
1976	11.17	1.56	1.80	1.78	12.96	1.22	1.22	1.22
1977	20.32	2.80	3.60	3.75	24.17	1.75	1.75	1.75
1978	21.60	3.20	3.62	4.20	15.38	1.54	1.97	1.97
1979	22.74	3.87	5.05	5.87	20.20	1.65	2.24	2.24
1980	23.41	1.38	1.93	2.32	13.60	1.52	2.08	1.89
1981	29.76	3.00	4.40	4.08	23.70	1.42	2.59	2.00

PRICE PER POUND

	Lower Yukon Area				Upper Yukon Area			
Date	King	Summer Chum	Fall Chum	Coho	King	Summer Chum	Fall Chum	Coho
1964	.17		.03					
1965	.20							
1966	.20							
1967	.19	.05	.05	.07				
1968	.18	.06	.06					
1969	.19	.08	.08	.08				
1970	.22	.09	.09	.12				
1971	.24	.10	.10	.12				
1972	.24	.11	.11	.13				
1973	.30	.16	.16	.18				
1974	.38	.21	.21	.25	.50	.15	.13	.15
1975	.42	.20	.20	.21	.92	.17	.14	.17
1976	.51	.24	.24	.27	.74	.19	.16	.19
1977	.85	.40	.45	.50	1.37	.27	.22	.27
1978	.90	.45	.47	.60	.87	.24	.25	.24
1979	1.09	.52	.68	.80	1.00	.25	.29	.25
1980	1.04	.20	.28	.36	.85	.23	.27	.29
1981	1.20	.40	.55	.60	1.00	.20	.35	.35
1982	1.41	.40	.55	.69	1.02	.18	.28	.37

Appendix Table 20. Average weight of salmon, commercial catch, Yukon area, 1964-1981.

AVERAGE WEIGHT IN POUNDS [1/]

Lower Yukon Area

Year	King	Summer Chum	Fall Chum	Coho
1964	22.6	-	-	-
1965	23.0	-	-	-
1966	23.0	-	-	-
1967	24.0	-	-	7.3
1968	26.5	-	-	-
1969	23.9	-	-	6.7
1970	22.3	-	-	7.1
1971	22.6	-	-	6.9
1972	24.6	6.6	7.6	7.1
1973	24.5	6.8	7.9	7.1
1974	23.7	6.5	7.5	7.0
1975	22.0	6.5	7.5	7.2
1976	21.9	6.5	7.5	6.6
1977	23.9	7.0	8.0	7.5
1978	24.0	7.1	7.7	7.0
1979	20.9	7.4	7.4	7.3
1980	22.5	6.9	6.9	6.4
1981	24.8	7.5	8.0	6.8

Upper Yukon Area

Year	King	Summer Chum	Fall Chum	Coho
1974	17.3	6.7	7.7	6.7
1975	17.7	6.6	8.0	6.6
1976	18.4	6.4	8.0	7.5
1977	17.6	6.5	8.0	6.5
1978	20.2	6.8	7.4	6.4
1979	20.2	6.6	7.7	6.5
1980	16.0	6.6	7.7	6.5
1981	23.7	7.1	7.4	5.7

1/ Information not available for some species. Data obtained from age-length-weight samples or fish ticket entries.

Appendix Table 21. Yukon River comparative subsistence catch and effort data, 1961-1981 (numbers per fishing family are in parenthesis).

Year	Total Catch		Equivalent Catch 1/		Mean Equivalent Catch per Family 1/	
	King Salmon	Other Salmon 2/	King Salmon	Other Salmon 2/	King Salmon	Other Salmon 2/
1961	31,864	405,632	20,117	403,765	32	647
1962	21,610	356,754	10,217	325,244	18	577
1963	32,790	408,381	23,919	376,440	40	625
1964	22,877	485,630	14,847	458,609	25	762
1965	19,723	458,379	16,499	430,949	30	788
1966	14,272	214,236	11,507	204,913	23	416
1967	19,661	288,595	16,306	256,956	35	546
1968	15,006	189,607	11,883	170,552	25	358
1969	15,000	213,725	13,916	195,476	30	426
1970	15,794	223,237	13,474	199,163	34	498
1971	27,953	228,849	24,058	191,011	48	383
1972	21,868	151,008	19,314	129,343	46	311
1973	26,459	219,275	23,530	198,054	44	374
1974	23,137	323,834	19,014	284,977	38	580
1975	15,466	300,379	12,600	262,741	21	448
1976	19,329	262,624	16,196	235,056	25	358
1977	20,388	267,127	15,740	235,401	27	408
1978	30,297	299,791	25,496	255,447	36	360
1979	35,205	452,328	26,616	315,681	33	387
1980	58,224	479,713	38,749	436,321	51	571
1981	38,534	425,366	24,070	332,512	35	485

Year	Fishing Families surveyed	People in fishing families 1/	Snowmachines 1/	Sled dogs 1/	Gear operated 1/ Gill nets	Fishwheels
1961	624	3,626 (5.8)		4,806 (7.7)	577	169
1962	564	3,279 (5.8)		3,848 (6.8)	613	138
1963	602	4,154 (6.9)		4,214 (7.0)	716	156
1964	602	3,612 (6.0)		4,003 (6.6)	840	155
1965	547	3,993 (7.3)		3,993 (7.3)	645	127
1966	492	3,149 (6.4)		3,112 (6.3)	582	116
1967	471	2,779 (5.9)	192 (0.4)	2,752 (5.8)	530	86
1968	476	3,094 (6.5)	262 (0.6)	2,719 (5.7)	565	71
1969	459	2,984 (6.5)	349 (0.8)	2,448 (5.3)	930	63
1970	400	2,680 (6.7)	346 (0.9)	2,214 (5.5)	647	55
1971	499	3,244 (6.5)	460 (0.9)	2,226 (4.5)	795	63
1972	416	2,621 (6.3)	438 (1.0)	1,589 (3.8)	755	59
1973	530	3,339 (6.3)	571 (1.1)	2,375 (4.5)	991	83
1974	491	3,093 (6.3)	534 (1.1)	2,105 (4.3)	668	90
1975	587	3,698 (6.3)	762 (1.3)	2,585 (4.4)	1,119	126
1976	657	4,139 (6.3)	882 (1.3)	3,401 (5.2)	1,071	154
1977	577	3,635 (7.3)	785 (1.4)	3,413 (5.9)	755	164
1978	711	3,929 (5.5)	843 (1.2)	3,722 (5.2)	943	178
1979	815	4,386 (5.3)	914 (1.1)	4,623 (5.7)	1,324	179
1980	764	4,101 (5.4)	891 (1.2)	4,874 (6.4)	939	179
1981	685	4,314 (6.3)	812 (1.2)	4,663 (6.8)	-	173

1/ Data from villages surveyed each year since 1961: Mouth to Fort Yukon and Tanana River (does not include Fairbanks or Shageluk).
2/ Mostly chum salmon, some pinks and cohos.
3/ Total king and other salmon catches have been corrected.

Appendix Table 22. Comparative Yukon River king salmon subsistence catches by village, 1961-1981

Village	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
Mouth to Anvik River																					
Sheldons Point	180	116 1/	921 1/	52	49	127	765	30	728	1,093	882	462	185	283	108	122	302	546	91	427	163
Alakanuk	185	53	81	87	177	263	287	208	852	589	1,116	647	461	569	130	363	213	1,325	893	1,595	423
Emmonak-Kwiguk	137	21	120	63	146	160	641	42	810	151	627	300	1,071	208	55	398	62	2,738	1,362	1,175	1,021
Aproka Pass & vicinity	179	181	293	73	281	646	959	147	238	23	42	37	106	6	0	-	-	64	-	-	675
Kotlik-Hamilton	111	36	195	63	131	47	162	53	651	394	328	342	1,008	391	204	472	173	773	533	472	
Subtotal	772	406	1,610	328	783	1,242	2,704	477	3,179	2,250	2,995	1,788	2,811	1,469	497	1,355	750	6,246	2,879	3,669	2,282
Anvik River to Owl Slough																					
Mountain Village	1,110	619	2,427	985	610	217	1,345	238	557	348	2,036	932	912	460	394	397	172	817	1,025	843	811
Pitkas Point - St. Marys	1,810	391	1,254	521	826	499	993	168	737	575	1,915	1,517	1,270	878	438	1,273	576	1,314	1,718	1,297	1,380
Pilot Station	753	219	801	237	502	640	1,534	784	361	647	1,400	1,558	1,508	617	107	502	656	1,027	804	433	399
Marshall	1,265	503	2,012	290	942	350	306	365	564	598	985	713	1,163	1,068	436	694	364	805	721	1,101	990
Subtotal	4,938	1,732	6,494	2,093	2,780	1,506	4,178	1,555	2,225	2,168	6,336	4,720	4,853	2,923	1,375	2,866	1,669	3,964	4,268	3,674	3,580
Owl Slough to Bonasilla R.																					
Russian Mission	1,563	641	1,392	1,185	1,393	800	2,019	2,170	707	993	839	975	1,387	1,243	2,098	1,328	639	1,498	1,476	1,660	1,689
Holy Cross	2,648	1,111	3,123	2,243	2,351	2,845	2,576	1,418	1,877	1,678	3,032	2,359	3,708	2,243	2,792	1,492	1,920	2,404	1,787	2,123	2,312
Subtotal	4,211	1,752	4,515	3,428	3,744	3,645	4,595	3,588	2,584	2,671	3,871	3,334	5,095	3,486	4,890 7/	2,820	2,559	3,902	3,263	3,783	4,001
Bonasilla R. to Illinois Cr.																					
Anvik	22	61	163 3/	153	118	144	54	114	71	67	162	72	67	111	83	84	67	180	261	161	191
Grayling	25 2/	37 2/	197 2/	124	246	85	199	208	187	185	418	185	516	547	100	117 2/	149	292	391	3,664	222
Kaltag	33	224	102	330	87	47	199	60	232	124	154	83	148	616	192	67	216	127	435	694	179
Nulato	513	171	835	355	305	218	578	209	771	734	470	364	307	1,161	1,119	968	1,531	1,354	1,245	2,297	1,117
Koyukuk	483	423	629	209	228	93	262	398	357	30	410	417	564	604	60	437	762	516	496	699	541
Galena	626	123	282	168	260	407	210	456	283	313	674	608	510	706	1,294	435	1,155	945	1,591	1,205	570
Ruby-Kokrines	1,060	226	1,514	2,555	1,643	887	820	881	1,619	1,313	2,466	2,076	2,410	2,899	912	1,959	735	1,539	2,221	1,736	964
Subtotal	2,762	1,266	3,722	3,884	3,087	1,881	2,322	2,326	3,500	2,736	4,641	3,805	4,530	6,644	3,760	4,067	4,606	4,955	6,639	10,456	3,784
Illinois Cr. to U.S. Can. Border																					
Tanana	2,379	332	1,414	329	524	421	151	627	683	361	428	1,461	965	789	80	1,338	858	1,851	1,604	5,711	2,517
Rampart	605	1,438	1,231	990	1,041	869	368	922	321	180	1,190	1,457	2,614 3/	462 3/	517	581	1,194	987	1,820	1,169	488
Stevens Village	650	831	1,073	326	910	620	534	787	350	651	760	1,002 3/1/	1,027	590	362	643 1/	1,252 1/	3,178	2,194 1/	3,962 1/	2,387 1/
Beaver	186	442	491	710	480	31	210	495	458	273	777	241	358	34	168	188	299	658	394	506	552
Fort Yukon	2,958	1,822	2,831	2,098	2,747	1,074	692	632	76	1,019	706	820	536	1,030	216	1,158	1,061	2,642	1,922	2,527	2,794
Circle	496	393	250	1,200	-	-	-	-	-	-	668	348	226	406	16	528	304	212	1,175	769	728
Eagle	675	400	500	17	100	-	-	-	-	-	111	353	421	66	20	633	1,171	963	2,888	2,880	3,782
Subtotal	8,148	5,658	7,790	5,669	6,802	3,018	1,955	3,463	1,887	3,154	4,628	6,379	6,146	3,367	1,377	5,069	6,129	10,391	11,997	17,524	13,248
Innoko River																					
Shageluk																11	-	-	62	35	10
Holikachuk																					
Subtotal																11	-	-	62	35	10
Koyukuk River																					
Huslia	-	100	32	112	9	-	7	35	16	32	5	1	36	69	23	21	60	132	146	154	61
Hughes	-	-	47	18	-	-	65	82	10	116	378	27	32	10	25	156	72	216	160	226	402
Alatna	-	-	-	-	-	-	-	1	8	2	0	3	1	17	0	0	1	7	2	20	0
Allakaket	-	-	85	-	-	-	70	3	15	128	268	26	73	130	151	231	172	239	236	197	185
Subtotal	-	100	164	130	9	-	142	121	49	258	651	55	141	234	199	407	295	594	564	597	648
Tanana River																					
Minto-Manley Hot Springs	347	92	325	468	276	146	-	12	76	138	7	99	68	176	213	326	752	298	269	764	711
Nenana	310	115	213	194	157	272	252	462	465	357	2,357	887	683	1,431	533	864	742	807	800	771	974
Fairbanks	-	-	-	-	-	-	-	-	-	132	98	190	26	38	32	31	67	126	264	291	400
Subtotal	657	207	538	662	433	418	252	474	541	627	2,462	1,176	767	1,645	778	1,221	1,561	1,231	1,333	1,826	2,085
Chandalar River																					
Venetie	-	-	-	-	-	-	-	-	7	10	-	-	-	-	-	-	-	9	0	160	52
Subtotal	-	-	-	-	-	-	-	-	7	10	-	-	-	-	-	-	-	9	0	160	52
Porcupine River																					
Canyon Village	-	-	17	35	-	-	-	-	-	-	-										
Chalkytsi & Kevinjik R. Fish Camp	-	-	2	2	-	-	-	-	-	-	-										
Old Crow, Y.T.	-	-	44	-	94	65	43	28	27	8	9	-	20	100	100	23	29	-	0	2,000	100
Subtotal	-	-	63	37	94	65	43	28	27	8	9	-	20	100	100	23	29	-	0	2,000	100
Yukon Territory Villages 5/																					
Dawson	2,231	2,000	1,500	3,476	351	50	60	100	-	40	-	-	-	-	-	500	531	421	1,200	13,500	1,016
Stewart River	-	-	-	-	-	-	-	100	-	30	-	100	99	-	-	-	-				
Mayo-Stewart Crossing	-	300	250	150	400	100	30	-	-	-	250	-	25	233	-	-	61	105	-		1,000
Fraser Falls	-	-	-	-	-	-	-	-	-	-	-	-	25	-	-	-	-	-	-		-
Burwash-Kluane R.	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-		-
Fort Selkirk	-	-	-	-	100	125	400	200	22	11	-	-	45	-	-	-	-	-	-		-
Pelly	-	2,000 4/	2,000 4/	1,000	300	350	600	600	200	450	450	380	53	433	-	200	265	500	-		-
Faro	-	-	-	-	-	-	-	-	-	-	-	-	75	-	-	-	-	-	-		3,286
Ross River	-	500	600	-	500	120	150	200	-	120	-	35	76	30	-	-	-	-	-		-
Minto	-	-	-	600	170	350	-	100	-	-	-	15	261	-	-	-	-	-	-		400
Tatchun Creek	-	-	-	-	150	-	250	100	100	60	-	-	-	-	-	-	-	-	-		-
Carmacks	-	3,000	2,500	700	600	1,050	1,450	1,200	450	700	1,400	1,080	1,384	2,563	-	800	1,121	1,260	3,000		-
Lake Laberge-Whitehorse	-	-	-	-	-	-	-	-	-	20	180	-	-	-	-	-	-	-	-		3,042
Takhini	-	-	-	-	-	-	40	-	-	-	-	-	-	-	-	-	-	-	-		-
McClintock R.	-	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-		-
Carcross	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
Teslin-Johnson's Crossing	-	1,000	900	720	450	300	200	200	175	605	80	-	54	20	-	-	800	600	-		-
Subtotal	10,376	10,500	7,750	6,646	3,021	2,635	3,170	2,872	973	2,092	2,791	1,647	2,096	3,279	2,900 6/	1,500	2,778	2,906	4,200	13,500	8,844
Total:	31,864	21,610	32,970	22,877	19,723	14,272	19,661	15,006	15,000	15,974	28,384	21,905	26,459	23,137	15,866	19,329	0,374	30,297	35,205	50,224	38,634

1/ Includes Black River catches. 2/ Includes Shageluk-Holikachuk fish camp catches. 3/ Includes New Minto fish camp catches.
4/ Includes Minto catches. 5/ Data by village obtained from annual reports. Subtotals includes revised catch data and summation of village catches may not equal subtotals. 6/ Catch by village not available.
7/ Includes catches made by Fairbanks permit holders who fished in Yukon River near bridge crossing.

Appendix Table 23 Comparative Yukon River chum salmon subsistence catches by village, 1961 - 1981 1/

Village	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
Mouth to Anvik River																					
Sheldon's Point	12,683	10,899 1/	32,677 1/	8,701	10,804	3,007	2,757	8,693	5,673	4,238	4,356	4,355	3,554	2,720	6,247	2,033	1,327	3,420	2,177	2,545	3,200
Alakanuk	8,932	5,747	17,953	11,333	28,473	9,830	9,964	14,184	15,806	10,994	7,895	5,696	6,651	12,743	3,656	10,866	6,591	9,583	11,252	5,091	7,684
Emmonak-Kwiguk	16,670	9,074	27,749	16,954	47,386	16,824	15,314	16,569	32,836	7,265	6,087	4,828	10,135	7,388	5,335	8,397	7,501	9,826	12,634	7,720	10,557
Apoka Pass & Vicinity	8,409	6,071	8,915	7,712	20,129	10,741	7,910	4,853	4,048	566	559	344	560	1,460	229	231	25	473	-	-	-
Kotlik-Hamilton	3,931	5,362	9,942	4,076	4,726	3,003	2,251	1,709	4,391	4,078	4,882	3,976	7,639	6,098	6,578	10,269	7,152	9,122	9,063	9,851	9,168
Subtotal	49,805	37,153	97,136	48,776	104,600	38,406	43,196	46,008	44,654	27,940	22,578	18,398	27,625	33,936	17,258	31,816	22,596	32,429	35,116	25,213	30,619
Anvik River to Owl Slough																					
Mountain Village	7,373	8,331	10,106	13,693	11,475	7,548	8,305	7,312	10,676	4,866	8,214	5,909	7,624	11,661	6,720	8,278	11,368	6,920	13,304	10,548	8,232
Pitkas Point - St. Marys	8,771	10,610	7,001	12,508	14,130	8,460	9,790	9,366	31,686	14,604	13,633	10,072	9,201	14,478	8,644	12,060	12,347	10,097	12,275	7,898	9,204
Pilot Station	5,605	13,926	8,653	10,776	7,865	6,587	6,520	4,770	7,516	5,882	4,173	7,026	8,474	8,567	7,849	6,498	6,708	4,000	6,489	5,242	5,054
Marshall	5,992	6,595	8,023	10,125	6,631	3,640	3,070	3,530	6,606	4,910	6,154	6,174	4,934	6,763	6,710	3,938	2,896	2,662	7,002	7,229	7,234
Subtotal	27,741	39,362	30,683	47,002	40,101	25,235	27,685	24,778	36,383	30,261	32,072	29,181	30,133	41,469	28,923	29,774	32,319	23,579	39,070	30,917	29,724
Owl Slough to Bonasilla R.																					
Russian Mission	4,098	9,994	5,354	30,069	4,888	2,707	4,897	3,836	3,668	3,114	2,378	2,919	2,469	4,740	4,113	2,407	2,262	1,256	1,927	880	3,559
Holy Cross	21,144	20,424	12,532	31,497	26,709	4,228	22,341	10,309	6,037	4,188	2,387	3,421	3,532	4,611	4,693	5,646	5,404	939	3,474	4,773	4,753
Subtotal	25,242	30,418	17,886	61,566	30,597	6,935	27,238	14,145	9,705	7,302	4,765	6,340	5,991	9,351	8,806	8,053	7,666	2,195	5,401	5,653	8,312
Bonasilla R. to Illinois Cr.																					
Anvik	61,406 2/	43,404 2/	28,064 2/	34,341	37,179	14,239	20,793	10,020	8,925	8,924	8,121	3,689	20,850	29,261	30,924	26,660 2/	23,847	16,021	14,950	31,426	29,140
Grayling	56,284 2/	32,737 2/	18,358 2/	23,784	36,436	11,437	22,852	8,226	18,037	12,848	6,900	6,428	12,778	27,421	26,476	27,800 2/	17,102	18,824	20,630	32,308	16,898
Kaltag	23,395	25,824	23,193	35,951	29,382	21,729	27,028	12,090	9,942	12,465	10,662	4,286	23,135	14,920	11,699	13,306	16,588	19,291	31,424	57,339	30,552
Nulato	63,163	27,948	31,742	62,446	43,988	22,017	22,521	19,242	23,853	26,456	18,369	7,648	13,668	37,312	22,552	13,263	12,065	9,056	11,336	31,062	8,295
Koyukuk	13,544	6,282	7,966	36,167	11,232	7,443	4,613	3,541	3,359	3,789	3,125	1,772	1,964	14,978	5,663	2,440	3,946	6,268	10,133	17,445	12,630
Galena	10,585	1,673	6,731	3,100	2,741	8,296	2,650	1,079	2,422	3,179	2,015	1,353	4,612	8,307	11,500	13,435	5,527	11,945	6,815	16,699	18,564
Ruby-Kokrines	15,654	10,243	15,585	30,122	17,603	5,630	10,690	2,302	5,201	8,068	13,356	6,726	12,932	19,236	8,820	10,777	4,349	14,709	16,731	21,017	14,272
Subtotal	244,031	156,111	131,639	225,921	178,561	90,691	111,147	50,579	71,739	76,429	62,548	31,900	89,839	161,434	117,630	107,171	83,424	196,124	112,019	207,296	30,351
Illinois Cr. to U.S.-Canadian Border																					
Tanana	12,775	7,245	16,646	15,348	14,885	10,421	11,938	13,406	12,456	23,017	25,273	13,108	10,795	12,447	26,342	21,692	59,790	22,683	39,218	30,261	40,066
Rampart	11,722	6,962	11,209	14,963	13,462	4,056	16,763	2,636	8,935	5,252	11,436	3,674 3/	6,986 3/	1,527 3/	8,117	14,175	10,056	2,771	25,010	6,101	7,485
Stevens Village	3,490	4,355	8,247	6,979	7,346	1,900	3,146	2,022	2,725	8,292	7,957	1,118 3/	6,078 3/	6,728 3/	2,297	1,370 2/	4,926 2/	16,460	12,413 2/	11,605	23,061
Beaver	2,975	2,334	12,319	18,359	3,274	4,135	4,292	3,619	3,965	2,376	1,870	3,157	8,392	1,583	1,270	617	716	1,717	1,026	458	881
Fort Yukon	13,262	10,255	31,219	89,407	19,402	3,960	8,983	6,564	3,338	6,354	3,498	1,591	3,074	142	19,458	1,343	13,630	21,560	22,266	7,028	24,632
Circle	992	800	100	2,300	-	-	-	-	-	-	2,940	752	592	1,266	1,283	153	203	859	3,541	1,705	7,228
Eagle	150	100	175	1,582	256	-	-	-	-	-	490	587	2,109	66	1,825	3,141	7,432	6,027	27,048	16,773	31,105

Appendix Table 23. Comparative Yukon River chum salmon subsistence catches by village, 1961 - 1981 (continued)

Village	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
Tanana River																					
Minto-Manley Hot Springs	6,486	17,228	16,493	17,628	11,358	7,152	22	740	330	640	8	6	7	20	6,000	9,400	16,192	15,494	22,213	19,801	19,930
Nenana	6,426	13,821	13,699	11,129	7,363	12,023	3,517	6,055	3,247	16,398	10,007	20,866	14,164	26,340	26,634	14,345	24,167	27,625	33,525	37,549	17,901
Fairbanks	-	-	-	-	-	-	-	-	-	1,072	5,655	8,606	1,657	2,950	1,618	2,826	725	3,917	6,043	7,849	9,009
Subtotal	12,912	31,049	29,092	28,757	18,721	19,175	3,539	6,795	3,577	13,010	24,670	29,478	15,818	29,318	34,249	26,671	41,084	47,036	62,581	65,199	46,480
Chandalar River																					
Venetie	-	1,000	200	-	9,856	1,098	2,626	661	3,116	2,400	801	50	410	---	2,401	608	1,660	2,606	3,943	2,730	6,400
Subtotal	-	1,000	200	-	9,856	1,098	2,626	661	3,116	2,400	801	50	410	---	2,401	608	1,660	2,606	3,943	2,730	6,400
Porcupine River																					
Canyon Village	-	210	1,566	2,316	1,531																
Chalkyitsik	-	500	64	742	1,438												600				
Old Crow, Y.T.	-	2,800	20,000	-	7,535	7,175	11,768	10,000	3,411	620	100	5,000	5,827	7,000	11,600	3,125	5,592	5,000	11,000	7,500	3,000
Subtotal		3,510	21,630	3,058	10,504	7,175	11,768	10,000	3,411	620	100	5,000	5,827	7,000	11,600	3,125	6,192	5,000	11,000	7,500	3,000
Yukon Territory Villages 5/																					
Dawson	725	3,000	1,500	3,331		50	50	50		60								728	2,000	7,000	1,792
Stewart River																					
Mayo-Stewart Crossing																					
Fraser Falls																					
Burwash-Kluane R.							250	200	760		100		199	32							
Fort Selkirk					1,000	450	1,000	500	500	500		2,000									
Pelly		1,500 1/	1,500 1/		100			60	300					14		100	650				1,395
Faro																		132			
Ross River													327								
Minto				600	623	450	50	100	100												
Tatchun Creek													487	1,590		200	780	350			
Carmacks		2,000	2,600	250	260	100	600	200	400	60											642
Lake Laberge-Whitehorse																					
Takhini																					
McClintock R.																					
Carcross																					
Teslin-Johnson's Crossing																					
Subtotal	5,800	6,500	5,500	4,181	2,265	1,425	1,632	1,100	2,089	680	13,900	3,000	1,113	1,636	6,500 8/	300	2,929	1,210	2,000	7,000	3,829
Total:	432,889 6/	358,441 6/	421,625	485,621	458,931	214,611	288,577	189,607	213,764	223,205	214,368	151,008	219,275	323,034	300,379	262,622	267,127	299,791	452,328	479,713	425,366

1/ Includes Black River catches.

2/ Includes Shageluk-Holkachuk fish camp catches.

3 Includes Fairbanks fish camp catches.

4/ Includes Minto catches.

5/ Data by village obtained from annual reports. Subtotals include revised catch data and summation of village catches may not equal subtotal.

6/ Includes pinks and cohos not provided in breakdown of catch by village data.

7/ Includes small numbers of pink and coho salmon.

8/ Catch by village not available.

9/ Includes catches made by Fairbanks permit holders who fished in Yukon River near bridge crossings.

Appendix Table 24. Subsistence salmon catches taken order authority of a permit, Upper Yukon area 1973-81.

Upper Tanana River (upstream of Wood River) Subsistence Salmon Fishery

Year	No. of permits issued	Permittees reporting catches	Kings	Summer Chums	Fall chum and coho
1973	22	4/	26	771	886
1974	70	1/	38	1,373	1,580
1975	36	1/	32	751	864
1976	110	1/	31	1,314	1,512
1977	89	33	81	118	607
1978	160	126	126	2,729	1,188
1979	246	199	264	2,384	4,459
1980	315	254	282	3,729	4,059
1981	346	228	400	3,239	5,770

Upper Tanana River (Big Delta area) Subsistence Chum Salmon Carcass Fishery

Year	No. of permits issued	Permittees reporting catches	Fall chum salmon carcasses
1973	16	8	1,561
1974	21	1/	1,974
1975	26	1/	2,573
1976	36	1/	3,441
1977	46	29	5,816
1978	70	43	2,517
1979	32	25	4,582
1980	57	36	4,915
1981	43	27	5,030

Upper Yukon River (Hess Creek to Dall River) Subsistence Salmon Fishery

Year	No. of permits issued	Permittees reporting catches	Kings	Chums	Cohos
1974	29	1/	591	1,857	1,271
1975	19	1/	727	778	70
1976	28	18	531	974	-
1977	38	1/	467	2,567	-
1978	57	1/	1,333	9,735	-
1979	55	41	2,194	12,374	-
1980	70	67	1,350	6,488	36
1981	57	24	1,095	12,034	-

Upper Yukon River (22 Mile Slough to U.S. - Canadian Border) Subsistence Salmon Fishery

Year	No. of permits issued	Permittees reporting catches	Kings	Chums	Cohos
1979	75	60	4,063	30,475	114
1980	48	39	3,649	18,477	6
1981	71	51	4,510	38,333	-

1/ Information not available

Appendix Table 25. Comparative Yukon River drainage king salmon escapements, 1959-1970.[a]

	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
Andreafsky River												
East Fork		1,020	1,003	675[b]		867		361		380	231[b]	665
West Fork		1,220		762[b]		705	355[b]	303	276[b]	383	274[b]	574[b]
Total		2,240	1,003[b]	1,437		1,572	355[b]	664	276[b]	763	505	1,239
Anvik River		1,950	1,226				650[b]	638	336[b]	310[b]	296[b]	368
Nulato River												
North Fork (including main river)		483	376									
South Fork		273	167									
Total		756	543									
Gisasa River		300	266[b]									
Tozitna River		106[b]										
Chena River		132			137							6[b]
Salcha River		1,660	2,878	937		450	408	800		739	461[b]	1,882
Tatchun Creek								7[b]				100[b]
Little Salmon River										173	120	
Big Salmon River												
Big Salmon Lake-Scurvey Cr										413	77	362
Scurvey Cr - South Big Salmon Rl										414[b]	209[b]	308
Total										827[b]	286[b]	670
Nisutlin River Drainage												
Sidney Cr - 100 Mile Cr										407	105	615
McNeil Rl - Nisutlin Lake										84[b]		122
Wolf Rl (Wolf Lake-Red Rl)												71[b]
Total										491[b]	105[b]	808[b]
Whitehorse Dam (Fishway Counts)	1,054	660	1,068	1,500	484	587	903	563	533	414	334	625

[a] Data obtained from aerial surveys unless otherwise indicated. Only peak estimates are listed.
[b] Incomplete or poor survey conditions resulting in a very minimal count.

Appendix Table 25. Comparative Yukon River drainage king salmon escapements, 1971-1981.[a]

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
Andreafsky River											
East Fork	1,904	798	825		993	818	2,008	2,487	1,180	958[b]	5,343[f]
West Fork	1,682	582[b]	788	285	421	643	1,499	1,062	1,134	1,500	231[b]
Total	3,586	1,380	1,613	285[b]	1,414	1,461	3,507	3,549	2,314	2,458	5,574[b]
Anvik River Drainage											
Tower Count		1,104	517	471[b]	548	958	1,261	1,088	1,247		
Below Tower Site (includes tributaries)		68	96[b]		172[c]	198[c,d]	93	240	237		
Above Tower Site (includes tributaries		346	126[b]		190	98					8079
Subtotal		414	222[b]		362	296	93	240	237		
Total (best estimate of escapements, combined tower, sonar, aerial, and boat surveys)		1,172	613	471[b]	720	1,155	1,354	1,328	1,484	1,330	807[b]
Nulato River											
North Fork (including main river)				55	123	471	286	498	1,093	954	
South Fork				23	81	177	201	422	414	369	791
Total				78	204	648	487	920	1,507	1,323	791[b]
Gisasa River				161	385	332	255	45	484	951	
Tozitna River					202	42[b]	123	194		257	
Chena River	193[b,c]	138[b,c]	21	1,035[c]	316[c]	531	563	1,726	1,159	2,541	600[b]
Salcha River	158[b]	1,193	391	1,857	1,055	1,641	1,202	3,499	4,789	6,757	1,237[b]
Tatchun Creek	130	97	99	192	175	52	150	200	150	222	133[e]
Little Salmon River	275	126	27[b]				171	330	489[b]	286[b]	670
Big Salmon River											
Big Salmon Lake-Scurvey Cr	200	112	23[b]		153				555	470	930
Scurvey Cr - vicinity Souch Cr		448	52[b]						77	1,098	1,481
Total	200[b]	560	75[b]	70[b]	153[b]	86[b]	316[b]	524	632	1,568	2,411
Nisutlin River Drainage											
Sidney Cr - 100 Mile Cr	650	237	36[b]		239	102	77	375	713	975	1,626
McNeil Ri - Nisutlin Lake	350	46	6[b]		84	50		109		400	168
Wolf Ri (Wolf Lake-Red Ri)	750	13			40[b]				183	477	395
Total	1,750	296	42[b]	150[b]	363[b]	152[b]	77[b]	484[b]	896[b]	1,852	2,189
Whitehorse Dam (Fishway Counts)	856	391	224	273	313	121	277	725	1,184	1,383	1,539

[a] Data obtained from aerial surveys unless otherwise indicated. Only peak estimates are listed.
[b] Incomplete or poor survey conditions resulting in a very minimal count.
[c] Boat survey.
[d] Also includes 94 kings observed in Yellow River.
[e] Foot survey.
[f] Sonar estimate.
[g] Above sonar site.

Appendix Table 26. Comparative Yukon River summer chum aerial escapement surveys, 1974-1981 [a].

	1974	1975	1976	1977	1978	1979	1980	1981
Andreafsky River								
East Fork	3,215[b]	223,485	105,347	112,722	127,050	66,471	36,823[b]	147,312[c]
West Fork	33,258	235,954	118,420	63,120	57,321	43,391	115,457	--
Total	--	459,439	223,767	175,842	184,371	109,862	152,280	--
Anvik River Drainage								
Tower Count	201,277	601,880	237,851	162,614	166,102	37,457	--	--
Below Tower Site (includes tributaries)		211,130	168,315	100,240	85,237	280,537[c]	--	--
Above Tower Site (includes tributaries)		634,355	243,695	--	--	84,620	--	--
Subtotal	--	845,485	412,010	100,240	85,237	--	--	--
Total (best estimate of escapements, combined tower, sonar, aerial and boat surveys)	201,277	845,485	406,166	262,754	251,339	280,537[c]	492,676[c]	1,479,582[c]
Rodo River	16,137	25,335	38,258	16,118	17,845	--	--	--
Nulato River								
North Fork (including main river)	22,144	87,280	39,690	58,275	41,659	35,598	11,244[b]	--
South Fork	29,016	51,215	9,230	11,385	12,821	1,506	3,702[b]	14,348
Total	51,160	138,495	48,920	69,660	54,480	37,104	14,948	--
Gisasa River (Koyukuk R. drainage)	22,022	56,904	21,342	2,204[b]	9,280[b]	10,962	10,388	--
Hogatza River (Koyukuk R. drainage)								
Clear Creek	--	7,610	9,356	6,437	2,716	5,132	12,375	--
Caribou Creek	--	14,745	10,188	4,297	2,386	9,089	7,411	--
Total	--	22,355	19,544	10,734	5,102	14,221	19,786	--
Tozitna River	1,823	3,512	725[b]	761	2,262	--	580	--
Chena River	4,350[d]	2,702[d]	685	610	1,609	1,025	338[b]	3,500[b]
Salcha River	8,040[e]	7,573	6,474	677	5,405	3,060	4,140	8,500

a Only peak estimates are presented.
b Poor survey.
c Sonar estimate.
d Boat survey.
e Combined aerial and boat.

Appendix Table 27. Comparative Yukon River drainage fall chum aerial escapement estimates, 1973-1981 [a].

	1973	1974	1975	1976	1977	1978	1979	1980	1981
TANANA RIVER DRAINAGE									
Bear Paw River	1,530	2,996	1,657	--	--	--	--	--	--
Toklat River drainage									
Upper Toklat River[b]	6,957	34,310	42,418	35,224	25,000	35,000	107,593[c]	23,054	13,907
Lower Toklat River	--	--	35,867	2,000[c]	--	--	64,540	2,140	--
Subtotal Toklat R. drainage	6,957	34,310	78,285	37,224	25,000	35,000	172,133	25,194	13,907
Upper Tanana River drainage									
Benchmark #735 Slough	127[d]	1,450	--	336	1,270	1,705	2,714	1,900[e]	168[d]
Delta River	7,971	4,010	3,946[e]	5,526	17,925	10,051	8,125	4,637	22,375[e]
Upper Tanana River[f]	5,635	4,567	--	4,979	3,725	5,700	20,820	3,444	7,063
Bluff Cabin Slough	3,450	4,840	5,000[c]	3,197	6,491	5,340	6,875	3,190	6,120
Delta Clearwater Slough (Onemile Slough)	1,720	1,235	745[c]	1,552	1,900	475	3,850	885	632
Subtotal Upper Tanana R. drainage	18,903	16,102	9,691	15,590	31,311	23,271	42,384	14,056	36,358
SUBTOTAL TANANA R. DRAINAGE	27,390	53,408	89,633	52,814	56,311	58,271	214,517	39,250	50,265
PORCUPINE RIVER DRAINAGE									
Sheenjek River	1,175	40,507	78,060	12,023	20,506	14,610	41,140	13,027	69,043[g]
Black River drainage									
Salmon Fork River	--	444	1,517	0[d]	--	--	--	--	--
Kevenjik Creek	--	1,625	582	7[d]	--	--	--	--	--
Fishhole Creek	--	--	--	--	200[d]	--	--	31[d]	--
Subtotal Black R. drainage	2,069	2,099	7	200				31	--
Salmon-Trout River	--	6	350	20	--	--	--	--	--
Fishing Branch River (YT)	15,987[h]	32,525[h]	353,282[h]	13,450	32,500	15,000	44,080	20,319[d]	10,549[d]
SUBTOTAL PORCUPINE R. DRAINAGE	17,162	75,107	443,791	25,500	53,206	29,610	85,220	33,377	79,592

a All surveys rated fair-good unless rated otherwise. Only peak estimates listed.
b Includes following areas: Toklat River in vicinity of roadhouse, Shushana River, and Geiger Creek.
c Combined aerial and ground survey estimates.
d Poor or incomplete survey; very minimal and/or rough estimate.
e Foot survey.
f Richardson Highway bridge to Blue Creek.
g Sonar count.
h Weir count.

Appendix Table 28. Comparative Yukon River drainage coho salmon aerial escapement estimates, 1971-1981 [a].

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
Nenana River											
Lost Slough	--	--	--	1,388	943	118	524	350	227	499	274
Clear Creek	--	--	--	--	--	13	--	--	--	--	--
Wood Creek	--	--	--	--	--	--	310	--	--	--	170[b,c]
Seventeenmile Slough	--	--	--	27	956	281	1,167	466	1,987	592	1,005
Subtotal Nenana River	--	--	--	1,415	1,899	412	2,001	816	2,214	1,091	1,449
Delta Clearwater River	3,000[d]	632[d,e]	3,322[d]	3,954[d]	5,100[d,e]	1,920[d,e]	4,793[d,e]	4,798[d,e]	8,970[d,e]	3,946[d,e]	8,563[d,e,f]
Clearwater Lake and Outlet	--	417	551[d]	560	1,575[d,e]	1,500[d,e]	730[d,e]	570[d,e]	1,015[d,e]	1,545[d,e]	459[g]
Richardson Clearwater River	--	454[g]	375[d]	652[d]	4[g]	80[g]	327	--	372	611	550

a Peak estimates presented only.
b Surveyed by F.R.E.D.
c Foot survey.
d Surveyed by Sport Fish.
e Boat survey.
f Population estimate.
g Poor survey.

Appendix Table 29. Estimated total catch in thousands of western Alaska and Canadian Yukon king salmon by the Japanese mothership fishery, foreign groundfish fisheries and U.S. commercial and subsistence fisheries. (Also presented are Japanese landbased drift gillnet king salmon catches; estimated western Alaskan interceptions unknown).1/

Year	Japanese Mothership 2/	Foreign 3/ Ground-fish	Sub-Total	Western Alaska Commercial	Western Alaska Subsistence	Western Alaska Sub-Total	Total	(Japanese Landbased Drift gillnet)
1956	55.4 (137)	-	-	132.7	-	-	-	(18)
1957	15.2 (31)	-	-	158.4	-	-	-	(33)
1958	5.4 (46)	-	-	181.9	-	-	-	(45)
1959	27.8 (68)	-	-	195.1	-	-	-	(42)
1960	135.0 (180)	-	-	195.7	-	-	-	(113)
1961	13.9 (31)	-	-	243.1	-	-	-	(79)
1962	29.7 (122)	-	-	213.1	-	-	-	(124)
1963	40.8 (87)	-	-	208.1	66.2	274.3	315.1	(102)
1964	252.9 (410)	-	-	260.0	50.5	310.5	563.4	(195)
1965	105.5 (185)	-	-	263.0	52.9	315.8	421.3	(93)
1966	111.5 (208)	-	-	207.5	69.5	277.0	388.5	(112)
1967	69.8 (128)	-	-	284.0	81.9	365.9	435.7	(110)
1968	226.3 (362)	-	-	259.0	54.2	313.2	539.5	(88)
1969	435.2 (554)	-	-	287.6	65.2	352.9	788.1	(83)
1970	344.8 (437)	-	-	290.8	95.1	386.0	730.8	(101)
1971	143.6 (206)	-	-	283.2	73.8	357.1	500.7	(134)
1972	169.5 (261)	-	-	224.1	66.7	290.8	460.3	(103)
1973	47.0 (119)	-	-	177.4	69.7	247.1	294.1	(162)
1974	286.8 (361)	-	-	180.2	57.3	237.6	524.4	(186)
1975	109.2 (162)	-	-	126.2	77.2	203.3	312.5	(135)
1976	167.7 (283)	-	-	241.5	84.0	325.6	493.3	(201)
1977	64.5 (93)	43.5	108.0	296.1	84.1	380.2	488.2	(146)
1978	31.3 (105)	39.1	70.4	380.0	74.6	454.6	525.0	(210)
1979	65.0 (126)	100.4	165.4	412.0	99.3	511.3	676.7	(161)
1980 4/	388.0 (704)	111.6	499.6	312.0	113.3	423.3	922.9	(160)
1981 4/	~~44.0~~ (88)	44.0	~~88~~.0	509.0	130.0	639.0	~~7~~27.0	(190)

1/ Data from I.N.P.F.C. documents.
2/ Estimates do not include dropouts; (total catch in parenthesis).
3/ Assumed 100% of the catch is of western Alaska and Canadian Yukon origin.
4/ Preliminary estimates.

CAPE ROMANZOF DISTRICT HERRING FISHERY

Commercial Fishery, 1981

A total of 653 m.t. (100% sac roe) was landed in 1981 which marked the second year this district has been fished commercially (Appendix Table 30). The majority of the harvest (494 m.t.) was taken in Kokechik Bay (Stat. Area 334-08) and the remainder (159 m.t.) were taken in Scammon Bay (Stat. Area 334-09), (Figure 20). Processing and tender vessels belonging to three buyers were anchored just inside Kokechik Bay near Anikitun Island and one buyer was anchored in Scammon Bay near Cape Romanzof. Average roe recovery for the season was 8.0%. Average price paid for 8.0% roe herring was $300/ton with a $50 per 1% point differential. Fishermen earned a total of $212,000 for their catch.

A total of 111 fishermen (interim-use C.F.E.C. permit holders) made at least one delivery during the season and operated out of 82 boats. A total of 81% and 82% of the fishermen and boats, respectively, were from the local area (Hooper Bay, Scammon Bay and Chevak). It is estimated that about 60% of the harvest (392 m.t.) was made by local fishermen.

The commercial fishing season opened by regulation April 15 but fishing did not begin until May 14 when the first processor arrived. By May 17, a cumulative catch of 470 m.t. had been taken and a temporary season closure from May 18-21 was made to allow further evaluation of stock condition and abundance. Additional spawning and good test fishing catches of maturing herring were documented during the closure. The season was reopened for a 6 hour fishing period on May 22 to evaluate fishing effort. A total of 11.7 m.t. were taken during the 6 hour period by 11 non-local boats. During May 23-24, test fishing catches continued at high levels and a final 24 hour fisning period was allowed on May 25-26 and 171 m.t. were taken by 57 local boats delivering to one processor. Daily catches are presented in Table 16.

There were four herring processing firms that operated in the Cape Romanzof district. The firms and their respective boats are as follows:

1. Offshore Fisheries: (MV) Westward Wind
   (MV) Northwest Enterprise
   (MV) Alaskan Enterprise
2. Sterling Seafoods: (MV) Alaska Star
   (MV) Axel D
3. Speedwell Inc.: (MV) Lafayette
   (MV) Speedwell
4. Seafisher Products, Inc.: (MV) Arctic Fisher

Processing methods were of two types, freezing in the round or storage in a brine mixture. On one occasion, the processing boat Alaska Star offloaded directly onto a Japanese freighter anchored four miles outside of Kokechik Bay.

Several fishing violations occurred in the Cape Romanzof district. Although

not verified by actual observation, under-reporting of catches, fishing excess amounts of gear, and fishing during closed waters and seasons occurred in the outer waters of the district based on reports from fishermen. One processor was cited and fined $500 for not submitting fish tickets and final catch reports prior to departing from the district. It is recommended that a Fish and Wildlife Protection officer, stationed aboard a large vessel, patrol the Cape Romanzof district during 1982.

Subsistence Fishery, 1981

In 1981 a total subsistence harvest of 12.5 m.t. (27,578 lbs.) of herring were reported taken by 46 fishing families from Hooper Bay, Chevak and Scammon Bay. Subsistence fishing effort and participation were probably decreased from previous years for some of these villages as several persons went commercial fishing in the Cape Romanzof district. Comparative subsistence catch and effort data is presented in Appendix Table 31.

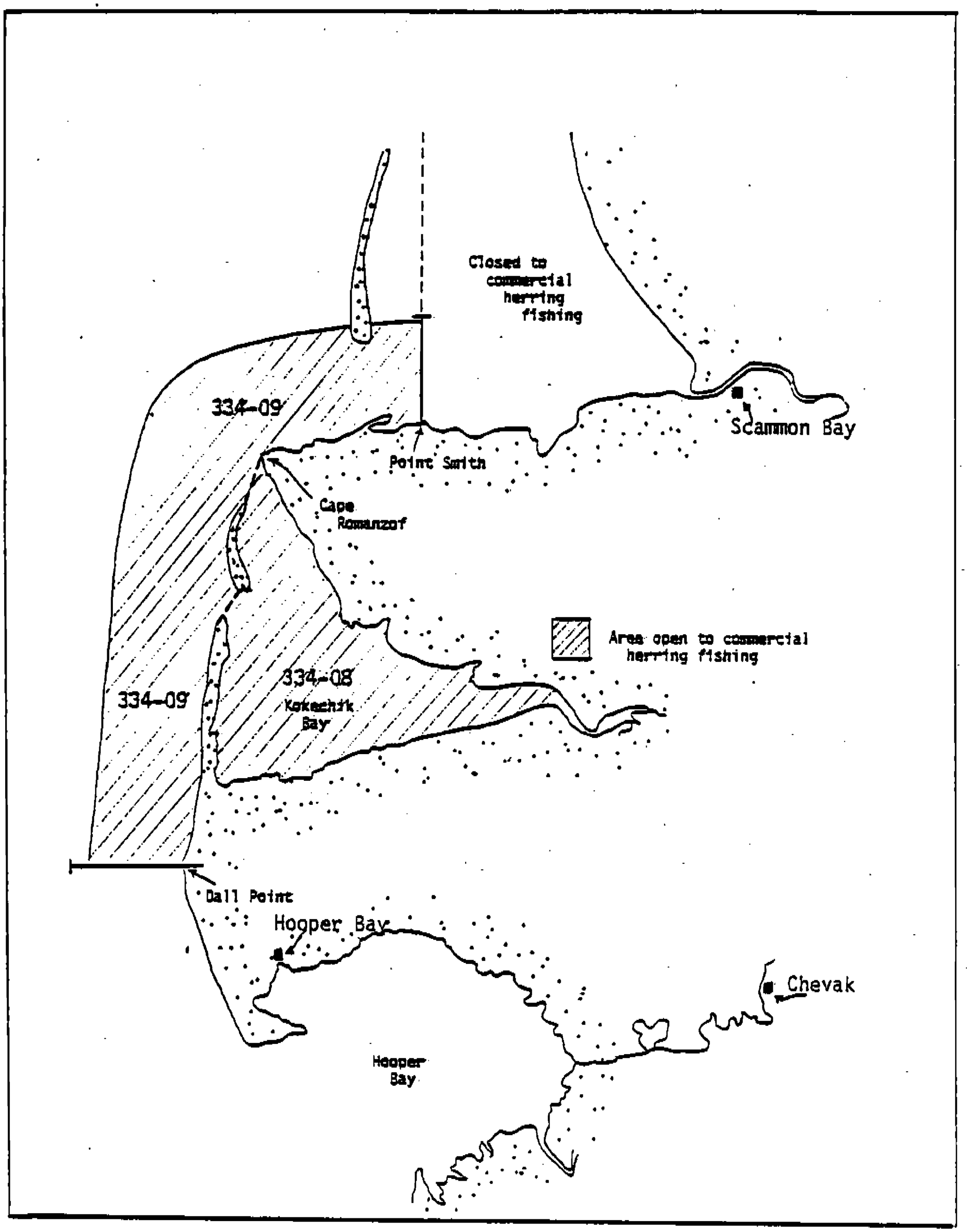


Figure 20. Cape Romanzoff herring district and statistical reporting areas.

Table 16. Cape Romanzof district commercial herring catch data, 1981.

Date	Catch Sac Roe (metric tons)	% of total	Catch Bait herring (metric tons)	% of total	Average Roe % daily	Total Daily catch (metric tons)	Seasonal Catch Accum. to date (metric tons)	Remarks
5/14	22.6	3.5	-	-	8.0	22.6	22.6	1 processor
5/15	25.9	3.9	-	-	7.5	25.9	48.5	2 processors
5/16	115.2	17.6	-	-	8.0	115.2	163.7	2 processors
5/17	306.7	47.0	-	-	8.0	306.7	470.4	3 processors
Sub-total 1/	470.4	(72.0)	-	-	7.9	470.4	470.4	
5/22	11.7	1.8	-	-	9.9	11.7	482.1	2 processors
Sub-total 2/	11.7	(1.8)	-	-	9.9	11.7	482.1	
5/25	51.5	7.9	-	-	8.2	51.5	533.6	
5/26	119.6	18.3	-	-	7.9	119.6	653.2	1 processor buying
Subtotal	171.1 3/	(26.2)	0	0	8.0	171.1	653.2	
Total	653.2	100.0	0	0	8.6	653.2	653.2	4 processors in district

Closures:

1/ 6 PM 5-17 catch data for 5-14 - 5-17, temporary season closure from 5/17-22 to allow evaluation of stock condition and abundance.
2/ 6 hr. period. 5-22 12-6 PM catch data for 5-22 temporary season closure from 5-22 - 5-25 to allow evaluation of stock condition and abundance.
3/ 24 hr. period 5-25-26 - 24 hr. pd - catch data for 5-25 - 5-26; season permanently closed 5-26.

Appendix Table 30. Commercial herring fishery data, Cape Romanzof District, 1980-1981.

	1980	1981
Catch	554 m.t.	653 m.t.
Roe Recovery	9.8%	8.0%
Estimated Value 1/	$110,000	$212,000
Number of Buyers	2	4
Number of Fishermen 2/	69	111

1/ Value to fishermen

2/ Interim use C.F.E.C. permit holders

Appendix Table 31. Subsistence herring catches by village, Yukon area, 1975-1981.

	Catches in pounds (No. fishing families)					
	1975	1976	1977	1978	1979	1980
Scammon Bay	-	1,390(4)	-	1,300	12,000(21)	6,270(18)
Chevak	-	1,400(9)	300(2)	-	4,600(21)	7,100(20)
Hooper Bay	5,543(34)	6,007(28)	4,750(28)	7,780(29)	6,145(42)	7,375(23)
Total		8,797(41)			22,745(84)	20,745(61)

	1981
Scammon Bay	15,400 (16)
Chevak	4,264 (10)
Hooper Bay	7,914 (20)
Total	27,578 (46)

COMMERCIAL FRESHWATER FISHERIES

Regulations adopted by the Board of Fisheries allow the Department of Fish and Game to issue permits for the commercial harvest of miscellaneous species of fish such as whitefish, sheefish, char, trout, pike, blackfish and lamprey. Permit authorization is not required for the sale of these species when taken incidentally in conjunction with commercial salmon fishing.

Commercial fisheries for species other than salmon have been allowed in widely scattered locations throughout the Yukon and Tanana River drainages and in the Colville River on the North Slope; most of these fisheries are limited, experimental-type operations and occur only sporadically.

A commercial fishery for whitefish has existed in the Colville River delta (located approximately 60 miles west of Prudhoe Bay) since 1964. Fishing generally takes place during late June and July for broad and humpback whitefish, and October through early December for actic and least cisco. Set gillnets (of 3- and 5-inch stretch measure) are used as capture gear, and fishing during fall months occurs under the ice (Appendix Table 32).

In the upper Yukon area set net fisheries targeting on whitefish have been permitted in recent years in Lake Minchumina and Healy Lake. Catch data are presented in Appendix Table 33.

Numerous other permits allowing limited harvests of whitefish, primarily for the upper Yukon area, have been issued; for reasons unknown, these fisheries did not occur.

Permits for the taking of non-salmon species have also been issued for various locations in the lower Yukon area. Reported harvests for those fisheries are presented in Appendix Table 34. Set gillnets are primarily used for taking whitefish and sheefish and the catch is marketed in local village stores or Bethel.

Appendix Table 32. Colville River Commercial Catches
1964-1981

	Broad Whitefish	Humpback Whitefish	Arctic Cisco ("Kaktok")	Least Cisco ("Herring")
1964	2,951 1/		16,000	9,000
1965	3,000 1/		50,000	
1966	2,500 1/		40,000	
1967	Data not available			
1968	3,130		42,055	18,180
1969	Data not available			
1970	2,080 1/		19,602	25,930
1971	3,815	132	38,016	22,713
1972	3,850	1,497	37,333	13,283
1973	2,161		71,569	25,188
1974	3,117	2,316	35,601	13,813
1975	2,201	1,946	28,291	20,778
1976	2,172	1,815	31,659	34,620
1977	443	1,431	31,796	14,961
1978 2/	20 3/	1,102	17,292	21,589
1979	3/	1,831	8,684	24,984
1980	3/	4,231	14,657	31,459
1981	1,035	469	38,206	15,584

1/ Includes small numbers of humpback whitefish.

2/ Also reported taken were 1 king salmon, 2 red salmon, 9 chum salmon and 118 pink salmon.

3/ No fishing effort during June or July.

(Average weights: Broad whitefish 5.1 pounds, Least cisco 0.91 pounds, Arctic cisco 1.0 pounds.)

Appendix Table 33. Commmercial whitefish catches, upper Yukon area, 1972-1980.

Healy Lake			Lake Minchumina		
Year	Number	Pounds	Year	Number	Pounds
1972	2,605	3,950	1971	3,277	9,831
1973	2,187	3,915	1972	718	2,154
1974	1,885	3,390	1973	1,697	5,037
1975	1,357	2,375	1974	854	2,562
1976	1,440	2,625			
1979	1,336	2,306			
1980	data not available				
1981	No effort				

Appendix Table 34. Commercial freshwater fishery catches, lower Yukon area, 1978-1981.

Year	Sheefish		Whitefish		Blackfish
	Number	Pounds	Number	Pounds	Pounds
1978	-	-	19	87	-
1979	5	39	23	55	-
1980	283	2,265	78	250	293
1981	200	1,883	775	2,854	-

Attachment 1. List of Yukon area emergency orders issued, 1981.

Number	Effective Date	Action Taken	Comments
3-Y-1-81	May 17	Closure of commercial herring season in the Cape Romanzof district.	The 350 metric ton guideline harvest level was exceeded. Reopening of season dependent on subsequent test fishing and spawning ground surveys.
3-Y-2-81	May 22	Reopen commercial herring fishing season in the Cape Romanzof district.	Fishing season reopened for 6 hours. During May 18-21 closure test catches, spawn deposition surveys and age composition analysis indicate high abundance of herring present.
3-Y-3-81	May 25	Reopen commercial herring fishing season in the Cape Romanzof district.	Fishing season reopened for 24 hours. Test fishing catches since closure on May 22 indicate continued high abundance of herring.
3-Y-4-81	May 27	Closure of commercial herring season in the Cape Romanzof district.	Total harvest of approximately 650 m.t. taking nearly double the 350 m.t. guideline harvest level. Season closed for conservation of the herring resource.
3-Y-5-81	June 5	Open commercial salmon fishing season in districts 1 and 2. First fishing period in each district of 24 hour duration.	Action taken because of strong early run of king salmon as indicated by monitoring of test fishing and subsistence catches.
3-Y-6-81	June 10	Reduced fishing time to 2 days a week in districts 1 and 2.	Action taken in order to assess abundance of early king salmon run.
3-Y-7-81	June 15	Open commercial salmon fishing season in district 3 & reduce fishing time to 2 days a week.	King salmon are present in large numbers and well distributed throughout the district. Fishing time reduced to provide for better balanced catch & escapementS.
3-Y-8-81	June 18	Closure of commercial salmon fishing season in district 3.	The 1,800-2,200 king salmon guideline harvest range was exceeded.
3-Y-9-81	June 21	Specify that only gillnets of 6" or smaller mesh size may be used in districts 1 and 2.	Action taken to allow harvest of more abundant summer chums and to minimize catch of late king run.
3-Y-10-81	June 22	Reopen commercial salmon fishing season; reduce fishing time to two 12 hr weekly periods during June 22-27 and specify that gill nets of 6 inch or smaller mesh size may be used in district 3.	Action taken to allow harvest of more abundant summer chums and to minimize catch of late king run.

Attachment 1. List of Yukon area emergency orders issued, 1981.

Number	Effective Date	Action Taken	Comments
3-Y-11-81	July 1	Closure of commercial salmon fishing season in subdistricts 5-A, 5-B and 5-C.	The 2,400-2,800 king salmon guideline harvest range was exceeded.
3-Y-12-81	July 24	Closure of commercial salmon fishing season in subdistrict 5-D.	The 300-500 king salmon guideline harvest range was exceeded.
3-Y-13-81	August 2	Closure of commercial salmon fishing season in districts 1 and 2.	The 120,000-220,000 chum salmon guideline harvest range was exceeded. Harvest as of July 31 largest in history and closure warranted in order to allow for upriver escapement and fishery requirements from the early portion of the fall chum run.
3-Y-14-81	August 5	Closure of commercial salmon fishing season in district 6.	Summer chum salmon run is essentially over. Season will reopen in Sept. for the fall chum fishery..
3-Y-15-81	August 6	Closure of commercial salmon fishing season in district 3.	Total district 1, 2 and 3 fall chum harvest as of August 5 is 237,000 fish. Closure in dist. 3 necessary in order to allow for additional escapements and to provide for upriver fishery requirements.
3-Y-16-81	August 12	Reopen commercial salmon fishing season in districts 1, 2 and 3.	Action taken to allow harvest of the late fall chum run. An additional harvest of 50,000-100,000 fish will be allowed.
3-Y-17-81	August 14	Reopen commercial salmon fishing season in district 5	Fall chums well distributed and present in harvestable numbers in the lower portion of district 5 in (subdistricts 5-A, 5-B and 5-C).
3-Y-18-81	August 14	Establish 3:00 PM opening and closing times for the weekly fishing schedule after Aug. 15 in subdistricts 4-B and 4-C.	Correction of error in 1981 commercial finfish regulation booklet.
3-Y-19-81	August 19	Closure of commercial salmon fishing season in districts 1 2 and 3.	An additional 105,000 fall chums harvested during Aug 12-19. Closure necessary to provide for upriver fishery and escapement requirements from the late portion of the fall chum run.

Attachment 1. List of Yukon area emergency orders issued, 1981.

Number	Effective Date	Action Taken	Comments
3-Y-20-81	August 29	Closure of the commercial salmon fishing season in subdistricts 5-A, 5-B and 5-C.	The 8,000 to 36,000 combined chum and coho salmon guideline harvest range was exceeded.
3-Y-21-81	September 5	Closure of the commercial salmon fishing season in subdistrict 4-B.	Fall chum salmon run has passed through and no processors are operating. Closure of season will allow for increased subsistence fishing time.
3-Y-22-81	September 8	Closure of the commercial salmon fishing season in subdistrict 5-D.	The 2,000-4,000 combined chum and coho salmon guideline harvest range was exceeded.
3-Y-23-81	September 12	Closure of the commercial salmon fishing season in subdistrict 4-C.	Peak of the fall chum run has passed through and commercial fishing effort is negligible. Closure of season will allow for increased subsistence fishing time.
3-Y-24-81	September 14	Reopen commercial salmon fishing season in district 6.	Fall chum and coho salmon are well distributed and present in harvestable numbers in district 6.
3-Y-25-81	September 20	Closure of commercial salmon fishing season in district 6.	The 5,500 to 20,500 combined chum and coho salmon guideline harvest range was exceeded.
3-Y-26-81	October 7	Closure of subsistence fishing season in subdistrict 6-C.	The 5,200 combined chum and coho salmon subsistence catch quota, in effect after August 15, was exceeded.

Attachment 2. Summary of 1981 Yukon area commercial and subsistence fishing regulations promulgated by the Board of Fisheries during Anchorage meeting, December 1980.

Section	Action Taken
5 AAC 01.220. LAWFUL GEAR AND GEAR SPECIFICATIONS.(e)(1)	Specified that up to 100 feet of drift gill net gear may be operated 10 days (June 5-14) prior to the opening of the commercial salmon fishing season in subdistrict 4-A.
5 AAC 01.225. WATERS CLOSED TO SUBSISTENCE FISHING.(a)(g)	Expanded the list of streams in the upper Yukon River drainage which are closed to subsistence fishing.
5 AAC 01.247. TANANA RIVER SUBDISTRICT 6-C SUBSISTENCE MANAGEMENT PLAN.	Established annual salmon possession limits for subsistence permit holders in subdistrict 6-C and established a subsistence quota in subdistrict 6-C of 750 king salmon, 5,000 chum salmon before August 15 and 5,200 chum and coho salmon combined after August 15.
5 AAC 05.200. FISHING DISTRICTS AND SUBDISTRICTS.(d)(1)(2)	Redefined boundaries of subdistrict 4-B and created new subdistrict 4-C.
5 AAC 05.200. FISHING DISTRICTS AND SUBDISTRICTS.(e)(1)(2)(3)(4)	Redefined boundaries of subdistrict 5-A and 5-B and created new subdistricts 5-C and 5-D.
5 AAC 05.310. FISHING SEASONS.(1)	Provided for an emergency opening of the commercial salmon fishing season between June 5-15 in districts 1, 2 and 3.
5 AAC 05.310. FISHING SEASONS.(2)(c)	Specified that the commercial salmon fishing season is closed in subdistrict 6-C during closures of the subsistence salmon fishing season in subdistrict 6-C.
5 AAC 05.320. WEEKLY FISHING PERIODS. (4)(A)(B)	Established a 3:00 P.M. opening and closing time for the weekly fishing periods during June 15-August 15 in district 4.
5 AAC 05.350. CLOSED WATERS.(1)	Redescribed the boundaries in the south mouth of the Yukon River.
5 AAC 05.350. CLOSED WATERS.(9)	Established a closed water area at the mouth of Apoon Pass.

5 AAC 05.360. GUIDELINE HARVEST RANGES.(b)(3)	Established a 60,000-120,000 king salmon guideline harvest range for districts 1 and 2 combined.
5 AAC 05.360. GUIDELINE HARVEST RANGES (b)(4)	Increased the guideline harvest range to 2,250-2,850 king salmon in district 4.
5 AAC 05.360. GUIDELINE HARVEST RANGES (b)(5)(A)(B)	Establish a guideline harvest range of 300-500 king salmon and after Aug 15 of 2,000-4,000 chum and coho salmon combined in subdistrict 5-D. Also establish a guideline harvest range of 2,400-2,800 king salmon and after Aug 15 of 8,000-36,000 chum and coho salmon combined in sub-districts 5-A, 5-B and 5-C.
5 AAC 05.360. GUIDELINE HARVEST RANGES (b)(6)	Reduced the guideline harvest range to 600-800 king salmon and after Aug. 15 of 5,000-20,500 chum and coho salmon combined in district 6.

Attachment 3. 1981 Yukon area subsistence and commercial fishing regulations.

TITLE 5.
FISH AND GAME

CHAPTER 1.
SUBSISTENCE FINFISH FISHING.

ARTICLE 4.
YUKON AREA

5 AAC 01.200. DESCRIPTION OF YUKON AREA. The Yukon area includes all waters of Alaska between the latitude of Canal Point light and the latitude of the westernmost point of the Naskonat Peninsula, including those draining into the Bering Sea.

Authority: AS 16.05.251(a)(2) and (b)

5 AAC 01.205. DESCRIPTION OF DISTRICTS AND SUBDISTRICTS. Districts and subdistricts are as described in 5 AAC 05.200.

Authority: AS 16.05.251(a)(2) and (b)

5 AAC 05.200. FISHING DISTRICTS AND SUBDISTRCTS. (a) District 1 consists of that portion of the Yukon River drainage from its terminus upstream to the northern edge of the mouth of the Anuk River and all waters of the Black River including waters within one nautical mile of its terminus.

(b) District 2 consists of that portion of the Yukon River drainage from the northern edge of the mouth of the Anuk River upstream to a Department of Fish and Game regulatory marker located at Toklik and includes the Anuk River drainage.

(c) District 3 consists of that portion of the Yukon River drainage from a Department of Fish and Game regulatory marker located at Toklik upstream to a Department of Fish and Game regulatory marker at the mouth of an unnamed slough three-fourths of a mile downstream from Old Paradise Village.

(d) District 4 consists of the Yukon River drainage from an ADF&G regulatory marker at the mouth of an unnamed slough downstream from Old Paradise Village upstream to the western edge of the mouth of Illinois Creek at Kallands;

(1) subdistrict 4-A consists of that portion of the Yukon River from a Department of Fish and Game regulatory marker at the mouth of an unnamed slough three-fourths of a mile downstream from Old Paradise Village upstream to the tip of Cone Point;

(2) subdistrict 4-B consists of the Yukon River drainage from the tip of Cone Point upstream along the north bank of the river to the westernmost edge of Illinois Creek and includes the following islands: Cook, Lark, Serpentine, Louden, Fish, Dainty, Yuki, Melozi, Dasha, Straight, Kit, Fox, Hardluck, Mickey, Florence, Doyle, Chokoyik, Lady, Liner, Flora and Cronin;

(3) subdistrict 4-C consists of the Yukon River drainage from the tip of Cone Point upstream along the south bank of the river to a point opposite the westernmost edge of Illinois Creek and includes the following islands: Cat, Hen, Jimmy, Big, Ninemile, Ham, Emerald, Edith, Kathaleen, Henry, Burns, Youngs, Weir, Clay, Large and Brant.

(e) District 5 consists of that portion of the Yukon River drainage (excluding the Tanana River drainage) from the western edge of the mouth of Illinois Creek to the U.S.-Canada border and includes the Illinois Creek drainage;

(1) subdistrict 5-A consists of the Yukon River drainage from a point opposite the westernmost edge of Illinois Creek upstream along the south bank of the river to the easternmost edge of the Tanana River mouth and includes the following islands: Basco, Sword, Leonard, Still, Tanana and Mission;

(2) subdistrict 5-B consists of the Yukon River drainage from the westernmost edge of Illinois Creek upstream along the north bank of the river to a point opposite the easternmost edge of the Tanana River mouth upstream along both banks of the Yukon River to the westernmost tip of Garnet Island and includes the following islands: Darvin, Little Joker, Station, Tozitna, Circle, Bull and Long;

(3) subdistrict 5-C consists of the Yukon River drainage upstream from the westernmost tip of Garnet Island to ADF&G regulatory markers located approximately two miles downstream from Waldron Creek;

(4) subdistrict 5-D consists of the Yukon River drainage from ADF&G regulatory markers located appoximately two miles downstream from Waldron Creek upstream to the U.S.-Canada border.

(f) District 6 consists of the Tanana River drainage to its confluence with the Yukon River;

(1) subdistrict 6-A consists of that portion of the Tanana River drainage from its mouth upstream to the eastern edge of the mouth of the Kantishna River and includes the Kantishna River drainage;

(2) subdistrict 6-B consists of that portion of the Tanana River drainage from the eastern edge of the mouth of the Kantishna River upstream to the eastern edge of the mouth of the Wood River and includes the Wood River drainage;

(3) subdistrict 6-C consists of that portion of the Tanana River drainage from the eastern edge of the mouth of the Wood River upstream to the eastern edge of the mouth of the Chena River and includes the Chena River drainage.

5 AAC 01.210. FISHING SEASONS AND WEEKLY FISHING PERIODS. (a) Unless restricted in this section and sec. 225 of this chapter, salmon may be taken in the Yukon Area at any time.

(b) In the following locations salmon may be taken only during the open weekly fishing periods of the commercial salmon fishing season and may not be taken for 24 hours before the opening and 24 hours after the closure of the commercial salmon fishing season:

(1) districts 1,2 and 3;

(2) district 4, excluding the Koyukuk and Innoko River drainages and excluding that area between the mouths of the Rodo and Nowitna Rivers where the requirements of sec. 225(f) of this chapter are effective;

(3) district 5, excluding the Tozitna River drainage and excluding subdistrict 5-B;

(4) district 6 excluding the Kantishna River drainage and that portion of the Tanana River drainage upstream of the mouth of the Salcha River.

(c) During any commercial salmon fishing season closure of greater than five days in duration, salmon may not be taken during the following periods in the following districts:

(1) from June 10 to August 20 in districts 1,2 and 3 from 6:00 p.m. Monday until 6:00 p.m. Wednesday;

(2) in district 4, excluding the Koyukuk and Innoko River drainages salmon may not be taken from 6:00 p.m. Friday until 6:00 p.m. Sunday;

(3) in district 5, excluding the Tozitna River drainage and subdistrict 5-B, salmon may not be taken from 6:00 p.m. Sunday until 6:00 p.m. Tuesday;

(4) in subdistricts 6-A and 6-B, excluding the Kantishna River drainage and that portion of the Tanana River drainage upstream of the mouth of the Salcha River, salmon may not be taken form 6:00 p.m. Wednesday until 6:00 p.m. Friday.

(d) In subdistrict 6-C and that portion of the Tanana River drainage upstream to the mouth of the Salcha River salmon may not be taken following the closure of the commercial salmon fishing season from 6:00 p.m. Monday until 6:00 p.m. Friday.

(e) Except as provided in sec. 225 of this chapter, and except as may be provided by the terms of a subsistence fishing permit, there is no closed season on fish other than salmon.

Authority: AS 16.05.251(a)(2),(7),(10),(12) and (b)

5 AAC 01.220. LAWFUL GEAR AND GEAR SPECIFICATIONS. (a) Salmon may only be taken by gill net, beach seine or fishwheel, subject to the restrictions set forth in this section.

(b) In districts 1 and 2, commercial fishermen may not take salmon for subsistence purposes by gill nets larger than six inch mesh after a date specified by emergency order issued between June 27 and July 5.

(c) In district 3, commercial fishermen may not take salmon for subsistence purposes during the commercial salmon fishing season by gill nets larger than six inch mesh after a date specified by emergency order issued between July 5 and July 15.

(d) In district 4, commercial fishermen may not take salmon for subsistence purposes during the commercial salmon fishing season by gill nets larger than six inch mesh after a date specified by emergency order issued between July 10 and July 31.

(e) In district 4, 5 and 6, salmon may not be taken for subsistence purposes by drift gill nets, except as follows:

(1) in subdistrict 4-A, king salmon may be taken by drift gill nets from June 5 through June 14;

(2) no person may operate a drift gill net that is more than 100 feet in length during the season described in (e) (1) of this subsection.

(f) Fish other than salmon may only be taken by set gill net, drift gill net, beach seine, fishwheel, pot, long line, lyke net, dip net, jigging gear, spear or lead, subject to the following restrictions which also apply to subsistence salmon fishing:

(1) during the open weekly fishing periods of the commercial salmon fishing season, a commercial fisherman may not fish for commercial and subsistence purposes simultaneously with more than one type of gear;

(c) The main Tanana River and its adjoining sloughs are closed to subsistence fishing between the mouth of the Salcha River and the mouth of the Gerstle River, except that salmon may be taken in the area upstream of the Richardson Highway bridge to the mouth of Clearwater Creek after November 20.

(d) The Tanana River drainage is closed to subsistence fishing for pike between the Kantishna River and the Delta River at Black Rapids on the Richardson Highway and Cathedal Rapids on the Alaska Highway, except that pike may be taken for subsistence purposes in the Tolovanna River and adjoining sloughs and lakes between Department of Fish and Game regulatory markers placed approximately two miles upstream and downstream of the village of Minto.

(e) The Delta River is closed to subsistence fishing, except that slamon may be taken after November 20.

(f) Repealed 4/13/80.

(g) The following locations are closed to subsistence fishing:

(1) the following rivers and creeks and within 500 feet of their mouths: Delta Clearwater River (Clearwater Cr. at 64° 06′ N. lat., 145° 34′ W. long.), Richardson Clearwater Creek (Clear Cr. at 64° 14′ N. lat., 146° 16′ W. long.), Goodpaster River, Chatanika River, Chena River, Little Chena River, Little Salcha River, Blue Creek, Big Salt River, Shaw Creek, Bear Creek, McDonald Creek, Moose Creek, Goldstream Creek, Hess Creak and Beaver Creek;

(2) Ray River and Salcha River upstream of a line between ADF&G regulatory markers located at the mouth of the rivers;

(3) Deadman, Jan, Boleo, Birch, Lost, Harding, Craig, Fielding, Two-Mile, Quartz and Little Harding lakes;

(4) Piledriver and Badger (Chena) sloughs.

5 AAC 01.230. SUBSISTENCE FISHING PERMITS. (a) Except as provided in this section, fish may be taken for subsistence purposes without a subsistence fishing permit.

(b) A subsistence fishing permit is required as follows:

(1) for the Yukon River drainage from the mouth of Hess Creek to the mouth of the Dall River;

(2) repealed 4/13/80;

(3) for the Yukon River drainage from Department of Fish and Game regulatory markers placed near the upstream mouth of 22 Mile Slough upstream to the U.S.-Canada border;

(4) repealed 4/13/80;

(5) for the Tanana River drainage above the mouth of the Wood River;

(6) for whitefish and suckers in the waters listed in sec. 225(a) of this chapter.

(c) In addition to the subsistence fishing permit conditions set forth in sec. 15 of this chapter, permits issued for fish other than salmon may also designate restrictive measures for the protection of salmon.

(d) Only one subsistence fishing permit will be issued to each household per year.

Authority: AS 16.05.251(a)(2),(3),(4),(7),(10),(12) and (b)

(2) the aggregate length of set gill net in use by an individual may not exceed 150 fathoms and each drift gill net in use by an individual may not exceed 50 fathoms in length;

(3) in districts 4, 5 and 6, it is unlawful to set subsistence fishing gear within 200 feet of other operating commercial or subsistence fishing gear;

(4) a gill net may obstruct not more than one-half the width of any fish stream; a stationary fishing device may obstruct not more than one-half the width of any salmon stream

Authority: AS 16.05.060
AS 16.05.251(a)(2), (4), (7), (10), and (b)

5 AAC 01.221. IDENTIFICATION OF GEAR. In addition to the requirements of sec 10(h) of this chapter:

(1) each fishwheel must have the first initial, last name and address of the operator plainly and legibly inscribed on the side of the fishwheel facing midstream of the river;

(2) for all gill nets and unattended gear that are fished under the ice, the first initial, last name and address of the operator must be plainly and legibly inscribed on a stake inserted in the ice and attached to the gear.

Authority: AS 16.05.251(a)(4),(5),(7) and (b)

5 AAC 01.225. WATERS CLOSED TO SUBSISTENCE FISHING. (a) The following locations in the upper Yukon River drainage are closed to subsistence fishing, except that whitefish and suckers may be taken under the authority of a subsistence fishing permit designating measures for the protection of other fish:

(1) the following streams and within 500 feet of their mouths:

(A) Birch Creek

(B) the Dall River June 10 through September 10;

(2) repealed 4/15/81;

(3) repealed 4/15/81;

(4) repealed 4/15/81;

(b) The following drainages located north of the main Yukon River are closed to subsistence fishing:

(1) Kanuti River upstream from a point five miles downstream of the state highway crossing;

(2) Fish Creek upstream from the mouth of Bonanza Creek;

(3) Bonanza Creek;

(4) Jim River including Prospect Creek and Douglas Creek;

(5) South Fork of the Koyukuk River system upstream from the mouth of Jim River;

(6) Middle Fork of the Koykuk River system upstream from the mouth of the North Fork;

(7) North Fork of the Chandalar River system upstream from the mouth of Quartz Creek.

5 AAC 01.240. MARKING OF SUBSISTENCE TAKEN SALMON. In district 6 no person may possess salmon for subsistence purposes unless the dorsal fin has been immediately removed from the salmon. It is unlawful to purchase salmon from which the dorsal fin has been removed. Possession of salmon taken for subsistence purposes from which the dorsal fin has not been removed is prima facie evidence that the salmon was taken and possessed for commercial purposes.

Authority: AS (a)(2),(3),(4),(7) and (b)

5 AAC 01.247. TANANA RIVER SUBDISTRICT 6-C SUBSISTENCE SALMON MANAGEMENT PLAN. (a) The purpose of this management plan is to insure adequate subsistence salmon harvests and spawning escapements in that portion of the Tanana River drainage upstream from the Wood River (subdistrict 6-C).

(b) Subsistence salmon harvest limits in subdistrict 6-C are 750 king salmon and 5,000 chum salmon taken through August 15 and 5,200 chum and coho salmon combined taken after August 15. When either the king or chum salmon harvest limit for periods before August 16 has been taken, the subsistence salmon fishing season in subdistrict 6-C will close. A later season will open after August 15 to allow the taking of the harvest limit for periods after August 15. If the chum salmon harvest limit has not been obtained through August 15, the remaining harvest will not be added to the chum salmon harvest level for periods after August 15.

(c) Subsistence salmon fishing seasons and weekly fishing periods for subdistrict 6-C are as follows:

(1) salmon may be taken at any time except salmon may not be taken for 24 hours before the opening and after the closing of the commercial salmon fishing seasons and during closed weekly commercial salmon fishing periods;

(2) weekly subsistence salmon fishing periods that follow closures of the commercial salmon fishing seasons will be established by emergency order;

(3) adjustments may have to be made to the subsistence salmon fishing seasons and weekly fishing periods for conservation purposes or to prevent harvest limits from being exceeded.

(d) Salmon may be taken only by set gill net or fishwheel. No person may operate a gill net having a mesh size larger than six inches after a date specified by emergency order issued between July 5 through July 25.

(e) The annual possession limit for the holder of a subdistrict 6-C subsistence salmon fishing permit is 10 king salmon and 75 chum salmon for periods through August 15 and 75 chum and coho salmon for periods after August 15.

(f) Subsistence fishermen taking salmon in subdistrict 6-C shall report their salmon catches at designated department check stations by the end of each weekly fishing period. Immediately after salmon have been taken catches must be recorded on a harvest form provided by the department.

Authority: AS 16.05.060
AS 16.05.251(a)(2), (3), (4), (7), (11), (12), and (b)

CHAPTER 5.
YUKON AREA.

ARTICLE 1.
DESCRIPTION OF AREA.

5 AAC 05.001. APPLICATION OF THIS CHAPTER. Requirements set forth in this chapter apply to commercial fishing only, unless otherwise specified. Subsistence fishing regulations affecting commercial fishing vessels or affecting any other commercial fishing activity are set forth in the subsistence fishing regulations in the chs. 1 and 2 of this title.

Authority: AS 16.05.251

5 AAC 05.100. DESCRIPTION OF AREA. The Yukon area includes all waters of Alaska between the latitude of Canal Point light and the latitude of the westernmost point of the Naskonat Peninsula, including those waters draining into the Bering Sea.

Authority: AS 16.05.251(a) (2)

ARTICLE 2.
FISHING DISTRICTS AND SUBDISTRICTS.

5 AAC 05.200. FISHING DISTRICTS AND SUBDISTRICTS. (a) District 1 consists of that portion of the Yukon River drainage from its terminus upstream to the northern edge of the mouth of the Anuk River and all waters of the Black River including waters within one nautical mile of its terminus.

(b) District 2 consists of that portion of the Yukon River drainage from the northern edge of the mouth of the Anuk River upstream to a Department of Fish and Game regulatory marker located at Toklik and includes the Anuk River drainage.

(c) District 3 consists of that portion of the Yukon River drainage from a Department of Fish and Game regulatory marker located at Toklik upstream to a Department of Fish and Game regulatory marker at the mouth of an unamed slough downstream from Old Paradise Village.

(d) District 4 consists of the Yukon River drainage from an ADF&G regulatory marker at the mouth of an unnamed slough downstream from Old Paradise Village upstream to the western edge of the mouth of Illinois Creek at Kallands;

(1) subdistrict 4-A consists of that portion of the Yukon River from a Department of Fish and Game regulatory marker at the mouth of an unnamed slough downstream from Old Paradise Village upstream to the tip of Cone Point and includes the Bonasila River drainage;

(2) subdistrict 4-B consists of the Yukon River drainage from the tip of Cone Point upstream along the north bank of the river to the westernmost edge of Illinois Creek and includes the following islands: Cook, Lark, Serpentine, Louden, Fish, Dainty, Yuki, Melozi, Dasha, Straight, Kit, Fox, Hardluck, Mickey, Florence, Doyle, Chokoyik, Lady, Liner, Flora and Cronin;

(3) subdistrict 4-C consists of the Yukon River drainage from the tip of Cone Point upstream along the south bank of the river to a point opposite the westernmost edge of Illinois Creek and includes the following islands: Cat, Hen, Jimmy, Big, Ninemile, Ham, Emerald, Edith, Kathaleen, Henry, Burns, Youngs, Weir, Clay, Large and Brant.

(e) District 5 consists of that portion of the Yukon River drainage (excluding the Tanana River drainage) from the western edge of the mouth of Illinois Creek to the U.S.-Canada border and includes the Illinois Creek drainage;

(1) subdistrict 5-A consists of the Yukon River drainage from a point opposite the westernmost edge of Illinois Creek upstream along the south bank of the river to the easternmsot edge of the Tanana River mouth and includes the following islands: Basco, Sword, Leonard, Still, Tanana and Mission;

(2) subdistrict 5-B consists of the Yukon River drainage from the westernmost edge of Illinois Creek upstream along the north bank of the river to a point opposite the easternmost edge of the Tanana River mouth upstream along both banks of the Yukon River to the westernmsot tip of Garnet Island and includes the following islands: Darvin, Little Joker, Station, Tozitna, Circle, Bull and Long;

(3) subdistrict 5-C consists of the Yukon River drainage upstream from the westernmost tip of Garnet Island to ADF&G regulatory markers located approximately two miles downstream from Waldron Creek;

(4) subdistrict 5-D consists of the Yukon River drainage from ADF&G regulatory markers located approximately two miles downstream from Waldron Creek upstream to the U.S.-Canada border.

(f) District 6 consists of the Tanana River drainage to its confluence with the Yukon River;

(1) subdistrict 6-A consists of that portion of the Tanana River drainage from its mouth upstream to the eastern edge of the mouth of the Kantishna River and includes the Kantishna River drainage;

(2) subdistrict 6-B consists of that portion of the Tanana River drainage from the eastern edge of the mouth of the Kantishna River upstream to the eastern edge of the mouth of the Wood River and includes the Wood River drainage;

(3) subdistrict 6-C consists of that protion of the Tanana River drainage from the eastern edge of the mouth of the Wood River upstream to the eastern edge of the mouth of the Chena River and includes the Chena River drainage.

Authority: AS 16.05.251(a) (2)

ARTICLE 3.
SALMON FISHERY.

5 AAC 05.310. FISHING SEASONS. Except as provided in 5 AAC 05.320--5 AAC 05.370, salmon may be taken only as follows:

(1) in district 1,2 and 3 the early season will open by emergency order between June 5 through 15. The early season will close by emergency order and subsequent seasons are established by emergency order. District 1, 2 and 3 will close no later than August 31;

(2) in districts 4, 5 and 6 from June 15 through September 30:

(A) the early season is closed by emergency order and subsequent seasons are opened and closed by emergency order;

(B) section 4-A closes August 1;

(C) the commercial salmon fishing season is closed in subdistrict 6-C during closures of the subsistence salmon fishing season in subdistrict 6-C.

Authority: AS 16.05.060
AS 16.05.251(a) (2) and (b)

5 AAC 05.320. WEEKLY FISHING PERIODS. Weekly fishing periods are as follows:

(1) district 1:

(A) June 10 through July 15, salmon may be taken from 6:00 p.m. Monday until 6:00 p.m. Tuesday and from 6:00 p.m. Thursday until 6:00 a.m. Saturday;

(B) after July 15, salmon may be taken from 6:00 p.m. Monday until 6:00 p.m. Tuesday and from 6:00 p.m. Thursday until 6:00 p.m. Friday;

(2) district 2:

(A) June 10 through July 15, salmon may be taken from 6:00 p.m. Sunday until 6:00 p.m. Monday and from 6:00 p.m. Wednesday until 6:00 a.m. Friday;

(B) after July 15, salmon may be taken from 6:00 p.m. Sunday until 6:00 p.m. Monday and from 6:00 p.m. Wednesday until 6:00 p.m. Thursday;

(3) district 3: June 10 through August 31, salmon may be taken from 6:00 p.m. Monday until 6:00 a.m. Wednesday and from 6:00 p.m. Thursday until 6:00 a.m. Saturday;

(4) district 4:

(A) in subdistrict 4-A from June 15 through August 1, salmon may be taken from 3:00 p.m. Sunday until 3:00 p.m. Tuesday and from 3:00 p.m. Wednesday until 3:00 p.m. Friday;

(B) in subdistrict 4-B from June 15 through August 15, salmon may be taken from 3:00 p.m. Sunday until 3:00 p.m. Tuesday and from 3:00 p.m. Wednesday until 3:00 p.m. Friday;

(C) in subdistrict 4-B after August 15, salmon may be taken from 6:00 p.m. Sunday until 6:00 p.m. Tuesday and from 6:00 p.m. Wednesday until 6:00 p.m. Friday;

(5) district 5:

(A) in subdistrict 5-A salmon may be taken from 6:00 p.m. Tuesday until 6:00 p.m. Thursday and from 6:00 p.m. Friday until 6:00 p.m. Sunday;

(B) repealed 4/ /81;

(C) in subdistrict 5-B salmon may be taken seven days a week;

(6) district 6:

(A) salmon may be taken from 6:00 p.m. Monday until 6:00 p.m. Wednesday and from 6:00 p.m. Friday until 6:00 p.m. Sunday;

(B) repealed 4/ /81;

Authority: AS 16.05.060
AS 16.05.251(a) (2)

5 AAC 05.330. GEAR. (a) In district 1, 2, and 3, set gill nets and drift gill nets only may be operated.

(b) In districts 4, 5, and 6, set gill nets and fishwheels only may be operated.

(c) No person may operate more than one fishwheel at any one time.

(d) No person may operate or assist in operating more than one type of gear at any one time.

Authority: AS 16.05.251(a) (4)

5 AAC 05.331. GILLNET SPECIFICATIONS AND OPERATION. (a) No person may operate set gill net gear that exceeds 150 fathoms in aggregate length; no person may operate drift gill net gear that exceeds 50 fathoms in length.

(b) In districts 1 and 2, salmon may be taken only with gill nets of six-inch or smaller mesh after a date specified by emergency order issued between June 27 and July 5.

(c) In district 3, salmon may be taken only with gill nets of six-inch or smaller mesh after a date specified by emergency order issued between July 5 and 15.

(d) In district 4, salmon may be taken only with gill nets of six-inch or smaller mesh after a date specified by emergency order issued between July 10 and July 31.

(e) No gill net gear may be operated in a manner to obstruct more than one-half the width of any waterway. In the intertidal zone this restriction applies at all stages of the tide.

Authority: AS 16.05.060
AS 16.05.251(a) (2), (4)

5 AAC 05.333. FISHWHEEL SPECIFICATIONS AND OPERATION. Fishwheel baskets must be stopped from rotating in the water during periods closed to commercial and subsistence fishing. The fishwheel vessel registrant is responsible for the operation of the fishwheel.

Authority: AS 16.05.251(a) (2), (4), (12)

5 AAC 05.334. IDENTIFICATION OF GEAR. (a) Each drift gill net in operation must have at one end a red keg, buoy or cluster of floats plainly and legibly marked with the permanent vessel license plate (ADF&G) number of the vessel operating the gear.

(b) Each set gill net and fishwheel in operation must be identified as required under 5 AAC 39.280.

(c) Repealed 4/ /81.

Authority: AS 16.05.251(a) (4)

5 AAC 05.335. MINIMUM DISTANCE BETWEEN UNITS OF GEAR. (a) In district 1: no person may set or operate any part of a set gill net within 300 feet of any part of another set gill net.

(b) In district 2: no person may set or operate any part of a set gill net within 200 feet of any part of another set gill net.

(c) In districts 4, 5, and 6: no person may set commercial fishing gear within 200 feet of other operating commercial or subsistence fishing gear.

Authority: AS 16.05.251(a) (2), (4)

5 AAC 05.350. CLOSED WATERS. Salmon may not be taken in the following waters:

(1) Acharon Channel of the south mouth area of the Yukon River west of a 2-1/2 nautical mile long line bearing 285° from an ADF&G regulatory marker located below Chris Point to the opposite side of the channel; the line may be marked by a series of yellow and green barrels placed by the department between shore markers;

(2) other waters farther than one nautical mile seaward from any grassland bank in district 1;

(3) waters west of a one nautical mile radius from the mouth of the Black River;

(4) waters of the Andreafsky River upstream of a line from department regulatory markers placed on each side of the river at its mouth;

(5) Tanana River upstream of the downstream mouth of the Chena River;

(6) tributaries of the Yukon and Tanana Rivers;

(7) all other waters of the Yukon area except those waters described in sec. 200 of this chapter;

(8) waters of the Anvik River upstream of a line between department regulatory markers placed on each side of the river at its mouth.

(9) waters east of a one nautical mile radius from a U.S. Coast Guard light at the mouth of Apoon Pass.

Authority: AS 16.05.251(a) (2)

5 AAC 05.360. GUIDELINE HARVEST RANGES. (a) When the king salmon guideline harvest level has been attained the season in the district will be closed and a later season may be announced to attain guideline harvest levels for the other species of salmon.

(b) The following are guideline harvest ranges for the districts, subdistricts, and time periods specified:

(1) district 1 after July 15, district 2 after July 18, and district 3 after July 21: 120,000 to 220,000 chum salmon from the areas;

(2) district 3: 1800 to 2200 king salmon;

(3) district 1 and 2: 60,000 to 120,000 king salmon;

(4) district 4: 2,250 to 2,850 king salmon and after August 15 in subdistrict 4-B 10,000 to 40,000 chum and coho salmon combined;

(5) district 5:

(A) subdistrict 5-A, 5-B and 5-C: 2,400 to 2,800 king salmon and after August 15, 8,000 to 36,000 chum and coho salmon combined;

(B) subdistrict 5-D: 300 to 500 king salmon and after August 15, 2,000 to 4,000 chum and coho salmon combined;

(6) district 6: 600 to 800 king salmon and after August 15, 5,500 to 20,500 chum and coho salmon combined.

Authority: AS 16.05.060
AS 16.05.251(a) (2), (3), (7) and (b)

5 AAC 05.370. REGISTRATION AND REREGISTRATION. (a) The owner, or his authorized agent, of a commercial salmon fishing vessel registered for salmon net registration area Y shall register prior to fishing for a district described in sec. 200 of this chapter. Registration is accomplished on a form provided by the department by indicating the district in which the vessel is intended to be first used during the season.

(b) Subsequent to the initial registration for districts 1 and 2, a registrant may operate a vessel in another district following reregistration for the district of intended operation. The registrant shall not fish during the 48-hour waiting period following reregistration.

(c) A salmon interim-use or entry permit holder whose vessel is registered to fish in district 3 shall not fish in districts 1 or 2 until after July 10.

(d) A salmon interim-use or entry permit holder whose vessel is registered to fish in either districts 1, 2 or 3 shall not fish in districts 4, 5 or 6.

(e) A salmon interim-use or entry permit holder whose vessel is registered to fish in districts 4, 5 or 6 shall not fish in another district.

(f) A vessel, including a vessel used to take salmon with a fishwheel, may be registered in only one district. Fishwheel vessel registrants shall indicate on the renewal form the single district selected.

(g) After fishing in either district 1 or 2, a salmon interim-use or entry permit holder shall wait 48 hours before fishing in another district.

(h) Repealed 4/ /81.

Authority: AS 16.04.251(a) (2) (3)

5 AAC 05.380. UNLAWFUL POSSESSION OF SUBSISTENCE TAKEN SALMON. It is unlawful to purchase salmon from which the dorsal fin has been removed as required by 5 AAC 01.240. Possession of salmon taken for subsistence purposes from which the dorsal fin has not been removed is prima facie evidence that the salmon was taken and possessed for commercial purposes.

Authority: AS 16.05.251(a) (2), (4), (7) and (b)

ARTICLE 4.
BOTTOMFISH FISHERY.

5 AAC 05.410. FISHING SEASON. There is no closed season on bottomfish.

Authority: AS 16.05.251(a) (2)

ARTICLE 5.
SMELT FISHERY.

5 AAC 05.510. FISHING SEASON. There is no closed season on smelt.

Authority: AS 16.05.251(a) (2)

CHAPTER 27. HERRING FISHERY.

ARTICLE 14. STATISTICAL AREA Q:

BERING SEA, KOTZEBUE AREA.

5 AAC 27.900. DESCRIPTION OF STATISTICAL AREA. Statistical area Q has as its southern boundary a line extending west from Dall Point and as its northern boundary a line extending west from Point Hope, and as its western boundary the International Date Line in the Bering Sea and Chukchi Sea.

Authority: AS 16.05.251(a)(2)

5 AAC 27.905. DESCRIPTION OF DISTRICTS AND SUBDISTRICTS. (a) The Cape Romanzov district consists of all waters of Alaska between the latitude of Dall Point and 62° N. lat.

5 AAC 27.910. FISHING SEASONS. (a) In the Cape Romanzov and Norton Sound districts, herring may be taken only from April 15 through July 31.

5 AAC 27.930. GEAR. Herring may be taken only by the gear specified for the following districts:

(1) Cape Romanzov district: gill nets;

5 AAC 27.931. GILL NET SPECIFICATIONS AND OPERATION. (a) No more than 150 fathoms of herring gill net may be operated from any commercially licensed herring fishing vessel and no single herring gill net may exceed 150 fathoms in length. The aggregate length of gill net in use by a herring interim-use or permit holder may not exceed 150 fathoms.

(b) Each gill net in operation must be buoyed at both ends and at least one buoy must be plainly and legibly marked with the permittee's herring interim-use or entry permit number.

Authority: AS 16.05.251(a)(4),(5)

5 AAC 27.950. WATERS CLOSED TO HERRING FISHING. (a) In the Cape Romanzov district, the waters east of the longitude of Point Smith are closed to herring fishing.

(d) Herring may not be taken in any waters of statistical area Q that are not set forth in sec. 905 of this chapter.

(e) The Cape Romanzov district is closed to the commercial taking of herring spawn on kelp or on any other substrate.

5 AAC 27.960. GUIDELINE HARVEST LEVELS. (a) The guideline harvest level for taking herring in the Cape Romanzof district is 350 metric tons.

(e) The guideline harvest levels set forth in (a)-(d) of this section represent preseason estimated levels of allowable herring harvests which will not jeopardize the viability of herring stocks. A district or section may close to herring fishing before or after the guideline harvest level has been reached if principles of management and conservation dictate such action, based on the biological condition of the stocks.

Authority: AS 16.05.251(a)(2),(3)

5 AAC 27.970 BUYER REPORTING REQUIREMENTS. In addition to the requirements of 5 AAC 39.130(f) each buyer or his agent shall report in person to a local representative of the department upon arrival on the fishing grounds and before commencing operations in the Cape Romanzof and Norton Sound districts and in person, by radio or telephone upon arrival on the fishing grounds and before commencing operations in the Port Clarence and Kotzebue districts. Each buyer shall:

(1) identify and describe all vessels to be employed in the processing or transporting herring or herring spawn on kelp in each district;

(2) report daily all herring or herring spawn on kelp purchased from fishermen or other processing records in each district as specified by a department representative; this may be a requirement for fish tender operators if specified by a local department representative, and;

(3) submit fish tickets before departure from each district and no later than 10 days after termination of buying operations in each district or as otherwise specified by a local department representative.

Authority: AS 16.05.251(a)(4),(5),(7),(12)

5 AAC 27.980. POSSESSION OF SALMON. Salmon taken incidentally in conjunction with commercial herring fishing must be returned to the water.

Authority: AS 16.05.251(a)(2),(4),(10)

Attachment 4. Summary of special projects conducted in the Yukon Area by the Division of Commercial Fisheries, 1981.

1. LOWER YUKON TEST FISHING

a. Location:

1.) Big Eddy Test Fish: Kwikluak Pass near Emmonak (South mouth of the Yukon River delta).

2.) Middle Mouth Test Fish:Kawanak and Apoon Passes (Middle and North mouths of the Yukon River delta).

b. Objectives: To determine the run timing, distribution and relative abundance of king, summer chum, fall chum and coho salmon in the lower Yukon River.

c. Results:

1.) Big Eddy:

KING and SUMMER CHUM: Index nets for king and summer chum were operated from May 28 to July 15. A total of 1,983 king and 4,688 summer chum were taken. Test data indicated that the mean date, (the date on which the central point of the run passed the test fishery), for king salmon was on June 16. The mean date for summer chum was July 1.

FALL CHUM and COHO: Index nets for fall chum and coho salmon were operated from July 16 to August 31. A total of 2,763 fall chum and 702 coho were taken. Test fishing data indicated mean dates of August 3 and August 17, for fall chum and coho salmon, respectively.

2.) Middle Mouth:

KING and SUMMER CHUM: Index nets for king and summer chum were operated

from May 29 to July 14. A total of 2,073 king and 1,718 summer chum were taken. Test net data indicated mean dates of June 15 and June 23 for king and summer chum, respectively.

FALL CHUM and COHO SALMON: Index nets for fall chum and coho salmon were operated from July 15 to August 30. A total of 2,009 fall chum and 650 coho were taken. Test net data indicated mean dates of August 1 and August 20 for fall chum and coho salmon, respectively.

2. SUBSISTENCE SALMON FISHERY SURVEYS

a. Location: Yukon, Koyukuk, Tanana Rivers, and Yukon Territory Villages.

b. Objectives: Determine subsistence utilization of salmon and fishing effort needed for formulating future management procedures and goals; also collect tag recoveries from high seas and Department tagging programs.

c. Results: A total of 1,059 fishing families were surveyed in the Yukon River drainage and their catches totaled 38,634 king salmon and 425,366 other salmon. A total 1,000 river miles was traveled by boat and 500 air miles by single engine aircraft in conducting the survey. Yukon Territory subsistence catch data was furnished by Environment Canada - Fisheries Service (Whitehorse Office).

3. COMMERCIAL SALMON CATCH SAMPLING

a. Location: Various locations in the different district fisheries.

b. Objectives: Obtain age, sex and size information for commercially caught fish.

c. Results: Several hundred samples of king, chum and coho salmon were collected in 1981. Detailed age, sex and size composition data has been compiled and will be presented in a separate report.

4. KING SALMON STOCK SEPARATION STUDIES

a. Location: Yukon River drainage.

b. Objectives: To determine through scale analysis the relative contribution of various king salmon stocks harvested in the main river commercial and subsistence fisheries.

c. Age (scale), sex and size data were collected from commercial/subsistence catches and various spawning streams (Andreafsky, Nulato, Anvik, Salcha and Chena rivers and several tributaries in the Yukon Territory). Scale measurements (circulii counts and widths) have been completed and data is undergoing computer analysis. Results will be presented in a separate report.

5. UPPER YUKON RIVER TEST FISHING

a. Location: Kaltag vicinity (mile 644)
Ruby vicinity (mile 590)

b. Objectives:

Kaltag: Determine run timing and relative abundance of summer chum salmon by continuous operation of a fishwheel.

Ruby: Determine run timing and relative magnitude of fall chum and coho salmon runs by continuous operation of fishwheels, one on each bank of the river.

c. Results:

1) Kaltag

A total of 71 kings and 19,722 chums were taken from the test fishwheel between June 14 and July 26. Peaks in the run occurred during the period June 21-22 and again June 27-July 1.

2) Ruby, south bank

A total of 8,585 chums and 164 cohos were captured between August 3 and September 16. Peak catches occurred on August 14 and during the period September 2-5. The peak catch of coho salmon occurred on September 8.

3) Ruby, north bank

A total of 2,714 fall chums was taken, and the run appeared to have peaked on August 21.

6. ANDREAFSKY RIVER ESCAPEMENT STUDY

a. Location: River Mile 20 of the East Fork Andreafsky River.

b. Objectives: Examine the feasibility of enumerating summer chum and king salmon escapement on the East Fork Andreafsky River using side-scanning sonar. Collect chum and king salmon samples for age-sex-size data.

c. Results: Side-scanning sonar proved to be a feasible method of enumerating summer chum and king salmon escapement to the East Fork Andreafsky River in 1981. The escapement was estimated to be 147,312 summer chums and 5,343 kings. Run timing was early, with 50% passage occurring by July 5. High daily counts early in the study suggest that part of the early portion of the run may have passed the sonar site before counting began. Timely escapement data from the Andreafsky River may prove useful in management of the lower Yukon River Fishery.

Chum salmon carcasses sampled from the spawning grounds were predominantly Age 5_1 (50%), followed by Age 4_1 (47%). Fifty-two percent were female, 48% male. King salmon were predominantly Age 6_2 (56%), followed by Age 5_2 (34%). Fifty-two percent were male, 48% female.

7. ANVIK RIVER ESCAPEMENT STUDY

a. Location: River Mile 48 of the Anvik River.

b. Objectives: Enumerate summer chum and king salmon escapement to the Anvik River using side-scanning sonar, and collect chum and king salmon samples for age-sex-size data.

c. Results: A record escapement of 1,479,582 summer chums and 2,306 kings was estimated

by sonar on the Anvik River in 1981. The summer chum escapement was 1.75 times greater than the previous record of 845,000 in 1975, and the king escapement was 1.6 times greater than the previous record of 1,474 in 1979. Run timing was earlier in 1981 than it had been during the previous two years of sonar enumeration at this site. Fifty percent passage occurred by 2 July in 1981, as opposed to 8 July in 1979 and 11 July in 1980.

Chum salmon carcasses sampled from the spawning grounds were predominantly Age 5_1 (64%), followed by Age 4_1 (35%). Fifty-five percent were female, 45% male. King salmon were predominantly Age 6_2 (50%), followed by Age 5_2 (37%). Fifty-nine percent were female, 41% male. This is the highest percentage of females since sampling was initiated on the Anvik River in 1972, and suggests that good production may result from the 1981 escapement.

8. MELOZITNA RIVER ESCAPEMENT STUDY

a. Location: River Mile 4 of Melozitna River.

b. Objectives: Examine feasibility of using side-scanning sonar to determine timing and magnitude of salmon escapements to this river and to collect salmon age-sex-size information.

c. Results: Side scanning sonar was determined to be a feasible method of enumerating salmon escapements in the Melozitna River. Recommendations were made to continue sonar studies in 1982.

A sonar estimate of 19,707 salmon was obtained along the east bank of the Melozitna River. The majority of the estimate was attributed to summer chum salmon, with possibly less than 1% attributed to king salmon. Actual escapement to this river was well in excess of 19,700 as the sonar counting period was subsequent to the peak of upstream salmon migration.

Test gillnetting showed the chum salmon sex composition to be 45% males and 55% females. Gillnet catches were predominated by Age 5_1 fish (73.5%), followed by Age 4_1 fish (24.5%). Ages 3_1 and 6_1 fish composed less than 2% each of the catch. Carcass sampling showed a much higher proportion of Age 4_1 chum salmon (47%).

9. SHEENJEK RIVER ESCAPEMENT STUDY

a. Location: River Mile 6 of the Sheenjek River.

b. Objectives: Examine feasibility of using side-scanning sonar to determine timing and magnitude of fall chum salmon escapements to this river and to collect salmon age-sex-size information.

c. Results: Side-scanning sonar was determined to be a feasible method of enumerating Sheenjek River fall chum salmon escapements. Recommendations were made to continue sonar studies in 1982.

A sonar estimate of 69,043 fall chum salmon was obtained for the Sheenjek River in 1981. Peak passage occurred on September 7.

Test gillnetting showed the chum salmon sex composition to be 53% males and 47% females. Escapement was predominantly Age 4_1 fish (85%), followed in order by Age 5_1 (12%) and 3_1 (3%) fish. Only a single Age 6_1 fish was included in the samples.

10. CAPE ROMANZOF HERRING PROJECT

a. Location: Kokechik Bay and Scammon Bay.

b. Objectives: Determine distribution, timing and relative abundance of spawning herring and collect information on spawn deposition and mortality. Collect age, sex, size and maturity information on herring from test fishing and commercial catches.

c. Results: A total of 1,727 herring were caught in test nets (variable mesh gill nets) during the period May 13 through

June 7. Initial spawning occurred prior to May 11 and spawning continued through May 26. The magnitude of the run was larger than previous years, based on test fishing and spawning ground surveys. In general, spawn deposition appeared more extensive and heavier than in past years. Observed spawn mortality was in excess of 75% in some areas. The majority of the sampled herring were Age 4, 5 and 7.

Attachment 5.

1981 YUKON AREA SALMON MANAGEMENT PLAN FOR COMMERCIAL AND SUBSISTENCE FISHERIES

ALASKA DEPARTMENT OF FISH AND GAME
Division of Commercial Fisheries
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1981 YUKON AREA SALMON MANAGEMENT PLAN

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF COMMERCIAL FISHERIES

INTRODUCTION

This management plan was developed in order to inform fishermen, processors and other interested persons about the status of the 1981 Yukon River salmon runs and Department strategies that may be used to regulate the various fisheries. Statements made concerning anticipated run magnitudes and management strategies are based on the best information presently available. Statements regarding fishing times and relative sizes of the runs should be considered as tentative and subject to change. This management plan will be updated and improved as information from ongoing and proposed Department programs becomes available.

The overall objective of the Yukon area research and management programs is to manage the various salmon runs for sustained yield. The commercial fishery is regulated on the assumption that a harvestable salmon surplus, after providing for spawning and subsistence utilization requirements, is available.

Subsistence has been designated by the Legislature (State Law 151) as the highest priority among beneficial users of the fish and game resources. Except in areas where intensive commercial fisheries occur, the subsistence fishery is subject to few restrictions in order to give preference to subsistence users. In the major commercial fishing areas the majority of the fishermen usually take salmon for both commercial and subsistence. Therefore, in order to enforce commercial fishing regulations, it is necessary to place some restrictions on the subsistence fishery. For example during the commercial salmon fishing season, subsistence fishing is allowed only during the open fishing periods and during the closed periods both commercial and subsistence fishing is prohibited.

Management is made difficult by the character of the salmon runs, the fisheries (for example, allocation problems between upriver and downriver fishermen) and the river itself. Since most of the commercial fisheries have only developed or expanded in recent years, there is a lack of adequate escapement and return data on which to fully evaluate the effects of increased commercial harvests. The various fisheries scattered over 1,400 river miles harvest mixed stocks usually several weeks and hundreds of miles from their spawning grounds. Because the Yukon River commercial fishery is essentially a "cape fishery" (fishing on mixed stocks) some tributary populations may be under or overharvested in relation to their actual abundance. For example, in a mixed stock fishery, where it is impossible to manage each stock separately, small spawning populations may be reduced to very low levels or even eliminated.

Due to the turbid water conditions of the main river and the vast size of the drainage (330,000 square miles), one-third of which is in Canada, accurate inseason assessment of the escapement immediately past the intensive downriver fishery is very difficult with the present available technology and funding. Management is also hampered by the variable run timing and pattern of entry into the lower fishery. Comparisons of catch and catch per unit effort data (which are the primary management

tools for estimating run abundance) between years is thus made difficult.

New research projects are underway and other programs are planned, once additional funding becomes available, to obtain the biological information necessary for better management of the salmon runs. For example, king salmon stock separation using scale analysis techniques were begun in 1980. If individual stocks can be identified from this program then the fishery can be more effectively regulated in order to achieve the proper balance between catch and escapement. Future salmon studies include expansion of the test fishing program, sonar assessment of run strength in the main river, and upgrading escapement documentation in tributary streams.

As a result of the difficulty in obtaining the necessary biological information, the mixed stock situation, increased effort and efficiency of the commercial fishery, allocation problems, and the need to provide for subsistence, the management of the Yukon River salmon runs must take a conservative approach. This is achieved by establishing harvest guidelines, mesh size restrictions, reduced weekly fishing periods, fishing season closures, etc. During the fishing season if it becomes apparent (based on analysis of catch data) that the run is substantially smaller-or-larger than needed for escapement and subsistence requirements, then the commercial harvest rates will be adjusted through the use of the emergency order, or less frequently emergency regulation authority.

Also affecting management is the interception of western Alaskan king salmon (including Yukon River stocks) by the Japanese high seas mothership gillnet fishery, foreign trawl fishery and the Japanese landbased drift gillnet fishery. King salmon catches by the mothership gill net fishery have averaged 233,000 fish annually during 1960-1977 and reached a peak catch of 554,000 kings in 1969. In some years the Japanese mothership catch has exceeded the total western Alaskan catch (commercial and subsistence). The majority of kings taken are immature (4 year olds) averaging 6 pounds each whereas most of the adults (mostly 6 year olds) taken by Alaskan fishermen average 20-25 pounds. Based on tagging and scale analysis studies it is estimated that 80-90% of the Japanese catches in the Bering Sea are of western Alaska origin.

An International treaty (the I.N.P.F.C.) was renegotiated in 1978 to afford increased protection for western Alaskan salmon stocks. Japanese high seas mothership king salmon catches in 1978 were 105,000 and in 1979 were 126,000 fish. However in 1980 a record 704,000 kings were taken by the mothership fishery and 388,000 were estimated of western Alaska origin.

King salmon are also taken as an incidental catch by foreign trawlers fishing for groundfish. The majority of these kings are assumed to be of western Alaskan origin. Catch documentation beginning in 1977 of this fishery was 44,000 (1977), 39,000 (1978), 100,000 (1979), and 110,000 (1980).

The Japanese landbased drift gillnet fishery harvest of king salmon has increased in recent years (1960-69 average: 110,000 fish) (1970-79 average: 154,000 fish). The origin of this catch is unknown but a substantial portion may be western Alaskan origin.

STATUS OF STOCKS AND FISHERY:

King Salmon: The Yukon River commercial king salmon fishery in Alaska dates back to 1918. Since 1961 commercial catches have ranged from 63,700 to 152,800 fish and the recent 5 year average (1976-80) is 112,900. In addition to the Alaskan catch, the commercial fishery at Dawson (Yukon Territory) harvests an average of 3,900 kings annually (recent 10 year average). Throughout the Yukon River drainage an average of 27,900 kings are taken annually (recent 10 year average) for subsistence use.

In recent years the character of the lower Yukon king salmon commercial fishery, which accounts for 95% of the catch, has changed. During the period 1961-72 the commercial catch of kings in the lower Yukon area averaged 102,200 fish annually. The catch during this period was taken almost exclusively with 8-8 1/2 inch mesh gill nets which are selective toward older age fish, especially large fecund females. Beginning in 1973 a six inch or smaller maximum mesh size regulation was implemented during the period late June - early July in order to maximize the harvest of summer chums. This regulation coupled with reduced fishing time and lower harvest goals resulted in a 17% reduction in the average annual (1973-80) catch to 85,000 kings taken with 8-8 1/2 inch mesh gill nets in the lower Yukon area. An additional 9,600 kings, mostly small males, were taken with 6 inch or smaller mesh gill nets annually during 1973-80. These regulatory changes should improve both the quantity and quality (i.e. more larger sized, female spawners) of the escapement.

In 1980 the magnitude of the Yukon River king salmon run was one of the largest runs since statehood. Due to an unusually early breakup of the river ice and the absence of ice in the Bering Sea, the king salmon run was very early. Subsistence fishermen in the lower Yukon area began making good catches of kings in late May and early June. In accordance with management plan strategy, the lower Yukon commercial fishing season was opened early on June 8 and 9 in the lower two districts prior to the normal June 10 season opening because of the strong early run. Commercial catches were good throughout June and continued through early July when 20,100 kings were taken incidentally with small mesh (5-1/2-6 inch) gill nets. Upriver fishermen reported very good catches also. The overall area commercial catch totaled 152,800 kings, the highest on record. Also a record 58,200 kings were taken for subsistence. Escapements were generally excellent in nearly all streams surveyed. Record escapements were observed in the Salcha, Chena, Gisasa, and several streams in the Yukon Territory. Escapements of kings past the Whitehorse Dam Fishway in Canada were the largest since 1962.

Spawning populations of king salmon are widely distributed throughout the drainage and have been documented in the Archuelinguk River located 80 miles from the mouth of the Yukon River and as far upstream as the headwaters of the drainage in the Yukon Territory of Canada, nearly 2,000 miles from the mouth. Major spawning streams in Alaska include the Andreafsky, Anvik, Nulato, Gisasa, Salcha and Chena rivers. In the Canadian portion of drainage, important systems include the Big Salmon and Nisutlin Rivers.

Commercial fishing effort has increased sharply since 1961. License registration for set gill nets has more than doubled while drift gill net gear has tripled in number. In excess of 150 units of fishwheel gear are also fished (upper Yukon area only). With the advent of the Limited Entry Program, fishing effort has apparently stabilized. In the

lower Yukon area 686 CFEC gill net permits were issued, while in the upper Yukon area 72 gill net and 160 fishwheel permits were issued during 1980.

Yukon River king salmon runs during 1972-76 generally declined in magnitude based on available comparative catch and escapement data. Countering this trend, good runs occurred in 1977, 1978, 1979 and 1980 when 96,400, 97,600, 129,100 and 152,900 kings were commercially harvested, respectively. Escapements into key survey streams were also strong especially in 1978-1980 when above average escapements were documented.

Restrictions placed on the commercial fishery during the 1970's have generally resulted in improved escapements compared to the 1963-69 period. Escapements in 1971 and 1977-80 were excellent and even greater in some instances to the levels observed during the early 1960's prior to maximum development of the commercial fishery. For example, aerial survey estimates during 1980 of 2,541 kings in the Chena River and 6,751 kings in the Salcha River were the highest ever recorded.

Summer Chum Salmon: Prior to the mid 1960's summer chums were used primarily for subsistence purposes, mostly for sled dog food. As the snow machine replaced the dog sled, subsistence fishing for summer chums declined. Beginning in 1967 commercial fishing regulations affecting summer chums were gradually liberalized. As a result of regulation changes (e.g. mesh size specifications and earlier openings of the fishing season), increased fishing effort and processor facilities, and the development of Japanese markets, the Yukon River summer chum salmon commercial harvest has increased sharply. Only 11,000 summer chums were taken commercially in 1967 while a record 1,062,500 fish were harvested in 1980. The recent 5 year average commercial harvest (1976-80) is 811,700 fish. The majority of the commercial harvest takes place in districts 1, 2 and 4. It is estimated that approximately 200,000 summer chums are taken annually (1976-80 average) for subsistence in the Yukon River drainage.

The 1980 summer chum salmon run was considered above average in magnitude, based on comparable catch and escapement data. Lower Yukon area commercial catches were at record levels while upper Yukon catches were the second highest recorded. An additional 272,400 summer chums, the largest catch since 1965, were taken for subsistence in 1980. Escapements were generally average to above average in most tributary streams.

Summer chums exhibit similar run timing as the kings, entering the lower river during June and early July. Major spawning tributaries include the Andreafsky and Anvik Rivers and several others upstream to and including those of the Koyukuk River drainage. Department tag and recovery population estimates indicated total Yukon River runs of 3.2 and 1.6 million summer chums in 1970 and 1971, respectively. The total Yukon River summer chum salmon run in 1975 was estimated to be in excess of 5 million fish based on commercial and subsistence catch documentation and aerial survey estimates. An escapement of over one million summer chums was estimated in 1975 in the Anvik River. Overall, Yukon River summer chum escapements have been good in recent years, however escapements in that portion of the drainage upstream of the Koyukuk River mouth have been variable.

Fall Chum Salmon: Although the commercial fishery for fall chum salmon in the Yukon River began in the early 1960's, the fishery has undergone major expansion since 1968. Commercial catches have ranged from 8,300 in 1964 to 362,500 in 1979 and the recent 5 year average (1976-80) harvest is 262,800 fish. In the face of increasing fishing effort and catches, the Department established a 250,000 maximum harvest limit for the entire river until future returns from current levels of harvest can be evaluated. This maximum harvest was used beginning in 1974 as a basis for establishing district quotas.

As additional information (comparative catch and escapement data) has become available in recent years, it has been evident that the size of the Yukon River fall chum runs has fluctuated sharply depending on brood year run strength and environmental factors. In order to provide for more flexible management of the variable fall chum runs, the Board of Fisheries replaced the rigid quotas with guideline harvest ranges (range of 147,500 to 322,500) and reduced fishing time beginning with the 1979 fishing season.

In 1980 the fall chum salmon run was considered below average to average in magnitude as evidenced by catch and escapement data. The 1980 commercial catch totaled 295,800 fish. A total of 185,700 fall chums were taken for subsistence. Escapements of fall chums in selected streams during 1980 were below average to average in magnitude and very similar to 1976 brood escapement levels.

Because of their good quality (bright, silvery appearance, large size, robust body shape and high oil content) which is related to their upriver spawning distinations, fall chums are in great demand and are harvested in all fishing districts. Fall chums are of less importance for subsistence than summer chums throughout the Yukon River drainage except upstream of the mouth of the Koyukuk River where it is estimated that fall chums comprise 60-75% of the total subsistence harvest. The annual subsistence catch of fall chums in the Yukon River drainage is approximately 130,000 fish (1976-80 average).

Fall chums enter the lower Yukon River beginning in mid-July and continue through early September. Major spawning areas are located in the Tanana River (Toklat River, Delta River and the upper Tanana River near Big Delta) and the Porcupine River (Sheenjek and Fishing Branch Rivers) drainages. Tagging studies indicate that the early run (mid-July-early August) of fall chums is bound for the Porcupine River system and Yukon Territory systems. The late run of fall chums (mid August-early September) is believed destined primarily for the Tanana River. Tanana River drainage escapements in general appear more stable and experience less fluctuation than the Porcupine River system. For example, recent escapements to the Fishing Branch River have ranged from 353,000 (1975) to 13,000 (1976).

Coho Salmon: This species is of minor importance in both the commercial and subsistence fisheries. The commercial catch since 1961 have ranged from 350 to 38,000 and the recent 5 year average (1976-80) is 19,000 fish. A total of 8,700 cohos were taken commercially in the Yukon area in 1980. Cohos first enter the lower Yukon River about one week later than fall chums and the run peaks during late August. Spawning occurs discontinuously throughout the drainage with the largest spawning concentrations documented in the tributaries of the upper Tanana River drainage.

The commercial harvest of cohos is dependent upon fishing effort exerted on the more numerous fall chums. Consequently, no specific management strategy has been developed for coho salmon. Future expansion of the coho fishery appears unlikely at this time.

OUTLOOK FOR 1981

King Salmon: In most years the dominant age class returning are 6 year old fish, however 5 and 7 year old fish may also contribute to the run. The 1975 brood year run (6-year olds) was judged below average to average in abundance as indicated by comparative catch and escapement data. However, survival (favorable environmental conditions and possible reduced high seas fishery interceptions) of the 1975 brood year was apparently excellent based on the large number of 5 year olds returning in 1980. Therefore a large "carryover" of 6 year old fish may occur in 1981. Five year olds (1976 brood year) may contribute substantially to the return in 1981 because of average brood year run strength and apparent high survival as indicated by the very large catch and high catch per unit effort of kings taken in the Japanese high seas mothership fishery in 1980.

In summary, based on evaluation of brood year run size data, it is expected that the 1981 Yukon River king salmon run will be above average in magnitude. The commercial catch should not exceed 98,000 (the approximate mid point of the 67,350-129,150 guideline harvest range for the entire river) unless an exceptionally large run is indicated.

Summer Chum Salmon: Normally the Yukon River summer chum (dog salmon) runs are composed of four year old fish, although in some years five year old fish are present in large numbers. The return of four year olds in 1981 will be dependent on the strength of the 1977 brood year and the survival of the resulting offspring. Based on the available catch and escapement data, the 1977 summer chum run was considered average to above average in magnitude. The return of five-year-old (1976 brood year) fish may contribute significantly to the run in 1981 because of the good return of four-year-old fish in 1980.

In summary, the magnitude of the Yukon River summer chum run in 1981 is expected to be average. The expected commercial harvest should total 600,000-1,200,000 fish for the entire river.

Fall Chum Salmon: Similar to the summer run, the majority of the fall chums returning each year are four year old fish. Based on comparative catch and escapement information, the 1977 brood year run (4 year olds) was generally considered average in magnitude. The return of five year olds (1976 brood year) is not expected to contribute to the return in 1981 because of the below average return of 4 year old fish in 1980.

In summary, the 1981 Yukon River fall chum salmon run is expected to be average in magnitude. The expected commercial harvest should approximate 235,000 fish, the midpoint of the guideline harvest range for the entire river.

Coho Salmon: The coho salmon run annually is much smaller than the fall chum run, and the harvest is dependent on the duration of the fishery for fall chums. The harvest is expected to total 15-25,000 fish for the entire river.

MANAGEMENT STRATEGY, LOWER YUKON (DISTRICTS 1, 2 AND 3) FISHERIES

King and Summer Chum Salmon: Sustained yield management of the king and summer (dog) chum salmon runs is complicated by the fact that both species exhibit similar run timing. The harvest of summer chums in the lower river is dependent on the regulations and management strategies employed toward the more intensively managed king salmon fishery. Even if an exceptionally large run of summer chum salmon develops, the harvest of summer chums may not be more than average because of the overriding importance of king salmon, especially if the king run is small and fishing restrictions are required.

The lower Yukon River king and summer chum salmon fisheries (set and drift gill nets only) are primarily regulated by scheduled weekly fishing periods. The fishing schedule is normally two periods a week, totaling 2-1/2 days (24 and 36 hour periods) which allows effort to be distributed throughout the run. Fishing periods may be changed by emergency order depending on the strength of the run as indicated by analysis of comparative catch statistics.

The commercial fishing season in districts 1, 2 and 3 will open by emergency order between June 5-15 (new regulation adopted by Board of Fisheries, December 1980). An emergency opening of the fishing season will allow more flexible management in order to provide better balanced harvests and escapements of the early portion of the king salmon run. Prior to opening the fishing season, subsistence and test fishing catches will be closely monitored as an indicator of early run timing and abundance. An early opening of the commercial fishing season will occur if consistent, increasing subsistence king catches are occurring over a one week period. The fishing season will be opened on a staggered basis: district 1 followed by district 2 and then district 3. Initial fishing periods in districts 1 and 2 will probably be of 24 hours or less duration in order to minimize overharvest of the early run segment.

A guideline harvest range of 60,000-120,000 king salmon for districts 1 and 2 was established by the Board of Fisheries at its December, 1980 meeting. The midpoint (90,000) of this guideline harvest range should be the expected catch if the run is of average magnitude. The expected catch if the run is above average would be 90-120,000 kings. If an exceptionally large run occurred as in 1979-80, then the upper end (120,000) of the guideline harvest range may be exceeded. Fishing time may be reduced in districts 1 and 2 in order to spread out the harvest over most of the run even if the run is large. With increased fishing efficiency the commercial fishery has the capability to overharvest various run segments in a very short time.

If the king salmon run is small, fishing time in districts 1 and 2 will be initially reduced from 2-1/2 to 2 days a week not later than June 20-25 (the peak of normal run timing). Additional reductions in fishing time or an early closure of the season may be necessary if indicated low abundance of kings continues in order to provide for adequate escapement and subsistence requirements.

A reduction in fishing time, because of a poor king run, is favored instead of complete season closure in June as this would prevent any harvest of summer chums. Achievement of an optimum harvest of summer chums while providing protection of king salmon, especially during small

king runs, is a complex problem facing management.

An additional option other than a season closure is the regulation which allows by emergency order a changeover to 6 inch or less mesh nets (there are no mesh size restrictions earlier in the season) during June 27-July 5. This regulation allows harvesting of the more abundant chums during this period and while affording protection to the late king run. It should be clearly stated that the Department recognizes the importance of the long established king salmon fishery. The intention of the 6 inch or less maximum mesh size regulation in the lower two districts is to allow an optimum harvest of chum salmon after a normal harvest of king salmon, consistent with spawning ground and subsistence fishery requirements, has been made.

In districts 1 and 2, after the changeover to gill nets of 6 inch or smaller mesh, fishing will remain at the normal 2-1/2 day a week schedule if the summer chum run is of average magnitude in order to provide for upriver escapement and fishery requirements. In recent years the summer chum run has become fully exploited, especially with the expansion of the upper Yukon area fishery. Fishing time in districts 1 and 2 may be increased to 3 days a week if the magnitude of the summer chums is above average. If the summer chum run is judged considerably below average, then a reduction in fishing time or a season closure in districts 1 and 2 may be required during late June-mid July.

In district 3 the king salmon fishery is governed by a 1,800-2,200 guideline harvest range during the king salmon season (no mesh size restrictions). The changeover date to gillnets of 6 inch or smaller mesh in district 3 will normally take place after a date between July 5-15 following the closure of the king salmon season. The reopening of the commercial fishing season to primarily harvest chum salmon will be dependent on the timing of the salmon runs in order to minimize the incidental capture of the late run of kings which are traditionally utilized for subsistence in this district. However, during years of high abundance an additional 1-2,000 kings may be taken commercially with small mesh gillnets.

Fall Chum and Coho Salmon: Effective for the 1979 fishing season the Board of Fisheries made two important regulation changes affecting the lower Yukon fall chum and coho salmon fisheries: establishing guideline harvest levels and reducing fishing time.

The 200,000 chum quota in effect after mid July for districts 1, 2 and 3 combined was replaced by a flexible guideline harvest range of 120,000 to 220,000 chums. In those years when the fall chum run is of average magnitude, the harvest should approximate 170,000 fish, the midpoint of guideline harvest level range. This midpoint harvest level represents 30,000 less fish than the previous 200,000 quota as the Board of Fisheries reallocated 30,000 additional fish to the upper Yukon area. If the fall chum run is substantially below or above average then the harvest will likely be at the lower (120,000) or upper (220,000) end of the guideline harvest range.

The Board of Fisheries also reduced weekly fishing time in all lower Yukon districts by one day. In districts 1 and 2 (after July 15) allowable fishing time was reduced 3 to 2 days per week and in district 3 fishing time (after July 25) was reduced from 4 to 3 days per week.

Similar reductions in fishing time were also implemented by emergency order in 1977 and 1978.

The reduction in fishing time will help minimize overharvesting of certain run segments (especially the early portion); spread out the effort over a greater portion of the season; and result in more balanced harvests between districts in the lower Yukon area. Furthermore, extension of the season would provide for additional harvest of the coho salmon run which peaks later (after August 15).

If a poor early run of fall chums (Porcupine River stocks) develops, as indicated by below average catches before July 25, then fishing time restrictions or a season closure may be implemented by emergency order. The season would be reopened or the normal fishing schedule resumed on August 10-15 when the Tanana River run is occurring.

In districts 1 and 2 the normal fishing schedule during the fall chum run of two 24 periods per week (or less fishing time if restricted by emergency order) also affects subsistence fishing since during the closed commercial periods subsistence fishing is prohibited. An additional fishing period each week for subsistence may be allowed beginning on or about August 10 by emergency order. Continuation of these special subsistence fishing periods during the season will be based on available enforcement surveillance by Protection officers and if violations are minimal. After August 20, if the commercial fishing season has closed, subsistence fishing will be allowed seven days a week by regulation.

MANAGEMENT STRATEGY, UPPER YUKON (DISTRICTS 4, 5, AND 6) FISHERIES

King and Summer Chum Salmon: As in the lower Yukon area, the king and summer chum (dog) salmon runs in the upper Yukon area exhibit similar run timing. The upper Yukon area commercial king salmon fishery is primarily regulated by a 5,500-6,950 fish guideline harvest range. In December 1978 the Board of Fisheries replaced the quota system with flexible guideline harvest ranges and these levels were further adjusted at their fall 1980 meeting. Presently there are no guideline harvest ranges specifying the numbers of summer chums which may be taken. Management of the summer chum fishery is based on in-season assessment of run strength.

In accordance with a Board of Fisheries directive, upper Yukon districts (including district 3) king salmon catches will be allowed to greatly exceed (up to a 100% increase) the upper end of the guideline harvest ranges if the run is very large. In-season assessment of run magnitude will be based on analysis of district 1 and 2 catch data. (It should be emphasized that district 1 and 2 catches may not necessarily indicate run abundance but rather reflect on favorable fishing conditions). This approach was used in 1980 and resulted in a doubling of catches above the upper end of the guideline harvest range. A greater increase in upriver king catches can be sustained during years of very large runs due to inherent differences of the various district fisheries. The intensive lower river fisheries (districts 1 and 2) are concentrated in the lower 200 miles and harvesting mixed stocks destined for spawning streams throughout the entire drainage. As the king salmon run progress upstream major stocks in the main river become more segregated in relation to area and time. Upriver catches are probably more reflective on the relative abundance of various stocks. Therefore, there is probably less

"management risk" in overharvesting stocks due to the less intensive fishing effort in districts 3-6 which are spread out several hundred miles of river.

The weekly fishing schedule was reduced from a single 5 day period to two-2 day periods by the Board effective for the 1979 season in subdistrict 4-A; and in 1980 for subdistrict 4-B, subdistrict 5-A and district 6. This action was taken because of increased fishing effort and efficiency and the necessity to provide for better balanced king and summer chum salmon harvests and escapements for the various run segments. Split fishing periods will help spread out the harvest over the entire length of the run and afford additional protection to smaller stocks which are move susceptible to overharvest than the larger, more productive stocks.

If a weak run of either kings or summer chums develops during 1981 in the upper Yukon area then the Department would consider various restrictions. These restrictions would probably vary in each district because of the different types of fisheries and the importance of the species harvested.

Fishermen in district 4 usually retain their kings for subsistence rather than sell them in order to allow the commercial fishing season to remain open for the more abundant and commercially valuable summer chums. However, because of a substantial increase in fishing effort due to the rapid development of the commercial fishery and the increase in the district 4 king salmon guideline harvest range granted by the Board in 1980, the total harvest of kings (commercial plus subsistence) may exceed traditional harvest levels in this district.

If the king salmon guideline harvest range (2,250-2,850 fish) is taken before July 10 in district 4, the commercial fishing season would be closed by emergency order. The season would be reopened during the period July 10 to July 31 to fishing with gill nets of six inch or smaller mesh and fishwheels. This action would minimize additional harvest of large king salmon and still allow continued commercial fishing on the more abundant summer chums.

If the king or summer chum salmon run is below average in magnitude, then fishing time in district 4 would be reduced as required. A reduction in fishing time would lessen the harvest and allow the harvest to be spread out over a greater portion of the run.

In 1980 the Board adopted a proposal allowing a 10-day subsistence drift gill net fishery (prior to the opening of the commercial season) in subdistrict 4-A. The staff will attempt to monitor this fishery in-season and a post-season effort will be made to quantify numbers of kings taken by drift gillnet gear. The major effort for this fishery is expected to take place in the Kaltag and Nulato area.

In district 5 kings are of greater importance and are mostly taken with gillnets for both commercial and subsistence purposes. Summer chums are not abundant and are mainly retained for subsistence purposes. The Board of Fisheries in December 1980 created four subdistricts within

the district and established a separate guideline harvest range of 300-500 kings in subdistrict 5-D (that portion of the drainage from regulatory markers placed 2 miles downstream from Waldron Creek upstream to the U.S./Canada border). The overall guideline harvest range (2,700-3,300 kings) for the district remains unchanged. Once the king salmon guideline harvest range is taken, the appropriate subdistrict(s) will be closed until the fall season.

If the king run is poor, then fishing time would be reduced in district 5.

In district 6 (Tanana River drainage) fishwheels are primarily used to harvest kings and summer chums for both commercial and subsistence purposes.

In district 6, once the king salmon guideline harvest range of 600-800 fish has been taken, the commercial fishing season will be closed. Also commercial fishing will be closed in subdistrict 6-C by emergency order when the subsistence king salmon quota of 750 fish is met (Subsistence Fishery Management Plan, subdistrict 6-C).

If there is a weak king salmon or summer chum salmon run in district 6, fishing time will be reduced by emergency order. If subsistence catches of summer chums after the king salmon closure appear above average in magnitude, a reopening of the commercial season would be considered.

Fall Chum and Coho Salmon: In the upper Yukon area, fall chum and coho salmon are present during the period from mid-August through September. The commercial salmon fishing during this period is primarily regulated by a 25,500-100,500 combined chum and coho salmon guideline harvest range which is apportioned to three districts. This guideline harvest range, adopted by the Board of Fisheries for 1979, replaced the previous 50,000 quota and was adjusted again in 1980. Unless there are indications that the fall chum run is either very small or very large, the midpoint of the guideline harvest range - 63,000 fish (subdistrict 4-B of district 4-25,000; district 5-25,000; and district 6-13,000), will be the expected catch. As in the lower Yukon area, cohos are of minor importance and are taken incidentally to the more abundant fall chums.

Subdistricts 4-B and 4-C: In response to a staff proposal, the Board in December 1980 adopted regulations redescribing the boundaries within what had been subdistrict 4-B. The upstream and downstream boundaries are unchanged; however, a new subdistrict (4-C) was established to allow stock-specific management within the area. Tagging studies have shown that in this area the majority of fall chums migrating along the north bank are destined for upper Yukon spawning streams and those fall chums and cohos traveling along the south bank are bound for the Tanana River drainage. Subdistrict 4-B basically is the north bank (including nearshore islands) of the Yukon River between Cone Point and Illinois Creek, and subdistrict 4-C includes the south bank and islands along that shore.

If the early portion of the fall run (upper Yukon stocks) appears weak, fishing time may be reduced by emergency order in subdistrict 4-B until run strength improves. If, on the other hand, the south bank (Tanana River stocks) appears weak, fishing time in subdistrict 4-C would be reduced. Conversely, if fall chum runs are unusually strong on

one bank or the other, additional harvest may be allowed on appropriate stocks. It is expected that in most years subdistricts 4-B and 4-C will be managed the same.

If the run is unusually large or small, catches will approach the upper or lower end of the guideline harvest range. An average run should result in a harvest of approximately 25,000 fall chum and coho.

Districts 5 and 6: In districts 5 and 6 the opening of the fall season will be delayed until the fall chum run has become distributed throughout the major fishing areas of both districts. This strategy has been endorsed by the Board of Fisheries and will result in better balanced harvests and escapements and throughout the districts.

As in district 4, run strength will determine whether allowable catch will be in the lower, middle or upper end of the guideline harvest range for the districts.

Separate subdistricts (5-A and 5-B) were established by the Board along the south and north banks of the Yukon River to allow more stock-specific management of fall chums. If the fall chum runs are either very small or unusually large then similar strategy outlined above for subdistricts 4-B and 4-C will be implemented to optimize harvests.

A separate fall chum and coho salmon guideline harvest range of 2,000-4,000 has been established for subdistrict 5-D of district 5; it is expected that the season openings within district 5 will be concurrent and that subdistrict closures will occur independently.

In subdistrict 6-C the commercial fishing season will be closed at such time as the subsistence fall chum and coho quota of 5,200 fish (both species combined) has been met (Subsistence Fishery Management Plan, subdistrict 6-C) or when the district-wide commercial guideline harvest range has been achieved.

Subsistence Salmon Fishery Management Plan, Subdistrict 6-C

At its December, 1980 meeting the Board adopted a Subsistence Salmon Management Plan for subdistrict 6-C to insure adequate subsistence salmon harvests and escapements in that portion of the Tanana River drainage upstream of the Wood River. Major provisions of this plan are listed below.

Subsistence salmon harvest quotas in subdistrict 6-C are 750 king salmon and 5,000 chum salmon taken through August 15 and 5,200 chum and coho salmon combined taken after August 15. When either the king or chum salmon quotas for the period before August 16 has been taken the subsistence salmon fishing season in subdistrict 6-C will close. Also the commercial fishing season in subdistrict 6-C will be closed by emergency order when either the subsistence king or summer chum salmon quota is taken.

If the subsistence king salmon quota has been attained, the Department may reopen the subsistence fishery in subdistrict 6C to fishermen using set gillnets of 6 inch or smaller mesh or fishwheels between July 5-25. This would allow harvest of summer chum stocks and minimize the harvest of large king salmon.

A later subsistence fishing season in subdistrict 6C will be opened after August 15 to allow the taking of the fall chum and coho salmon quota for the period after August 15. If the subsistence chum salmon quota in subdistrict 6C has not been obtained through August 15, the remaining quota will not be added to the chum salmon harvest quota for the period after August 15. Once the subsistence fall chum and coho salmon quota has been taken, the commercial fishing season will also close in subdistrict 6-C in accordance with regulations adopted by the Board.

ENFORCEMENT

The Board of Fisheries at its December 1977 meeting adopted a public proposal to repeal regulations which administered the legislation pertaining to the sale of subsistence caught salmon roe. The 1978 Legislature did not pass a bill to allow continuation of subsistence roe sales in view of the Board's action. Therefore, a sale of subsistence roe is illegal.

At the April 1979 meeting the Board adopted a proposal requiring the immediate removal of the dorsal fin from subsistence caught salmon in district 6. This action was necessary for enforcement purposes in order to distinguish between subsistence caught and commercially taken salmon. In recent years subsistence caught salmon have illegally entered commercial channels.

Also the Board adopted a proposal at its December, 1979 meeting to prohibit buyers and processors to receive for commercial purposes, barter or solicit to barter subsistence taken salmon or their parts. Further restrictions in the bartering of salmon or their parts may be implemented by emergency order for a specific time and area if circumvention of management programs is occurring because of illegal bartering activities.

Fishermen are requested to report any instances of fishery violations to Department of Fish and Game or Division of Fish and Wildlife Protection (Dept. of Public Safety) personnel in order that follow-up action may be taken.

Questions or comments concerning the 1981 Yukon Area Salmon Management Plan should be directed to:

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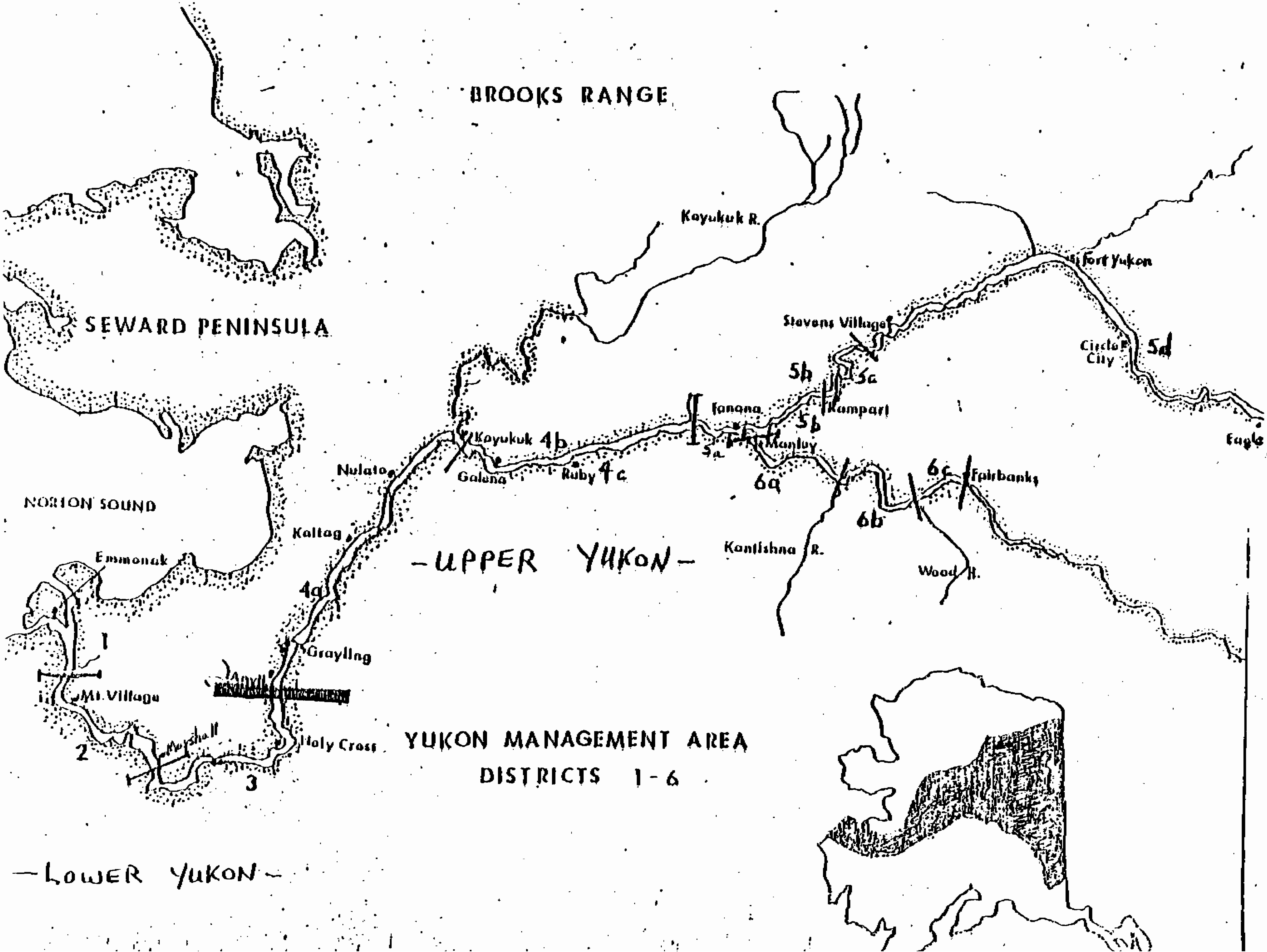
BROOKS RANGE
SEWARD PENINSULA
NORTON SOUND
Koyukuk R.
Fort Yukon
Stevens Village
Circle City
5d
5b
5a
Tanana
Rampart
5b
Koyukuk
4b
Manley
Eagle
Nulato
Galena
Ruby
4c
6a
6c
Fairbanks
6b
Kaltag
Kantishna R.
Wood R.
-UPPER YUKON-
Emmonak
4a
1
Grayling
Mt. Village
Holy Cross
Marshall
2
3
YUKON MANAGEMENT AREA
DISTRICTS 1-6
-LOWER YUKON-

Commercial salmon catch and effort data, Yukon area, 1980.

District	Fishing Vessels	Kings	Summer Chums	Fall Chums	Total Chums	Cohos	Total
1	407	87,789	391,024	106,829	497,853	4,828	590,470
2	229	50,824	310,531	83,881	394,412	2,660	447,896
3	21	5,240	44,571	13,519	58,090	-	63,330
Subtotal Lower Yukon	657	143,853	746,126	204,229	950,355	7,488	1,101,696
4	86	1,521	272,339	34,457	306,796	27	308,344
5	51	5,338	459	42,343	42,802	-	48,140
6	38	2,076	38,837	19,520	58,357	1,226	61,659
Subtotal Upper Yukon	175	8,935	316,370	91,585	407,955	1,263	418,143
Total	832	152,788	1,062,496	295,814	1,358,310	8,741	1,519,839

Commercial Salmon Catches, Yukon Area, 1967-1980.

	Kings	Summer Chums	Fall Chums	Total Chums	Coho	Total
1967	120,250		42,577	42,577	2,333	165,852
1968	84,371		83,160	83,160	22,329	170,460
1969	116,994				5,372	122,366
1964	93,387		8,347	8,347	2,446	104,180
1965	118,092		23,317	23,317	350	141,759
1966	93,315		71,043	71,043	19,254	183,614
1967	129,706	11,179	38,274	49,453	11,047	190,206
1968	106,325	14,470	52,925	67,395	15,303	187,224
1969	90,223	60,569	131,291	191,860	14,981	297,064
1970	80,269	137,368	209,356	346,724	12,245	439,238
1971	110,307	100,090	189,594	289,684	12,203	412,394
1972	92,840	135,668	152,176	287,844	22,233	402,917
1973	73,353	285,344	232,090	517,934	36,641	629,929
1974	97,919	604,210	273,158	877,368	16,240	991,527
1975	63,740	723,156	255,136	993,312	2,346	1,059,398
1976	88,577	558,227	163,282	721,509	5,197	855,377
1977	96,414	548,953	248,739	797,697	38,021	932,132
1978	97,502	1,045,092	243,737	1,288,829	25,560	1,412,391
1979	129,056	803,500	362,480	1,165,980	17,110	1,312,146
1980	132,788	1,062,496	295,814	1,358,310	8,741	1,519,839